USA
USO
USA
USO

COMMERCIAL FACTORING
CLOSES THE GAP
BETWEEN
Shipment and Payment

Convert your sales into cash at once without waiting 30 . . . 60 . . . or 90 days for funds to be collected! Commercial factoring provides *payment as you ship*—yet you extend your usual credit terms.

Those uncertain gaps between shipments and payments are wholly eliminated. Commercial Factors Corporation absorbs the credit losses and assumes all credit and collection expense.

Here is a story every business man should know—and it is yours for an inquiry. Write today—you can dictate the letter in less than two minutes.

COMMERCIAL FACTORS CORPORATION

Fred'k Vietor & Achelis, Inc. Established 1828 | Schefer, Schramm & Vogel Established 1838 | Peierls, Buhler & Co., Inc. Established 1893

TWO PARK AVENUE, NEW YORK
SEVENTY-SEVEN FRANKLIN ST., BOSTON

TEXTILE WORLD, Vol. 91, No. 2, February, 1941. Published monthly by McGRAW-HILL PUBLISHING CO., INC. (Bragdon, Lord & Nagle Division). Publication Office, 99-129 North Broadway, Albany, N. Y. Editorial and Executive Offices, 330 West 42nd Street, New York, N. Y. Allow at least ten days for change of address. All communications about subscriptions should be addressed to the Director of Circulation, 330 West 42nd Street, New York, N. Y.
Subscriptions: United States and Possessions, Canada and Latin American Republics, $1.50 a year, $2.00 for two years, $3.00 for three years. Great Britain and British Possessions 12 shillings for one year, 27 shillings for three years. All other Countries $2.00 for one year, $4.50 for three years. Entered as second class matter August 25, 1936, at Post Office, Albany, N. Y., under the act of March 3, 1879. Printed in U. S. A. Twenty-five cents per copy.

"I Started Something

WHEN I SUGGESTED VARIABLE SPEEDS FOR OUR SPINNING FRAMES!"

IN THIS TEXTILE MILL, MORE THAN fifty Texrope Vari-Pitch Drives are providing instantaneous speed changes on the spinning frames . . . with a speed variation range of approximately 25%! These variable speed transmission units, combined with special 10 hp Allis-Chalmers Quick-Clean Motors, assure modern flexible performance to answer all textile operating conditions.

"Yes Sir! Texrope Vari-Pitch Drives Are Doing a Big Job for Us . . . Saving Us Time and Money by Letting Us Operate Our Spinning Frames at Exactly the Right Speed at All Times!"

"YOU'LL BE amazed to know how many problems we licked by changing over the transmission on our spinning frames to the new Texrope Vari-Pitch variable speed drives.

"To change speeds we formerly had to take off a constant pitch sheave on the motor and replace it with a larger or smaller diameter sheave for the approximate speed we wanted. That took from 30 minutes to an hour and a half of wasted time!

"Now, with our new Texrope Vari-Pitch Sheaves, we change speeds instantaneously . . . without production delay. Not only that — we get the *exact* speed we want . . . not an approximate speed.

"And in breaking-in new frames, too, the Vari-Pitch sheaves permit slower breaking-in speeds . . . an important factor in long life for the frames.

"That's why I'm proud to say — 'I started something when I suggested variable speeds on our spinning frames!'"

Use Variable Speeds for Greater Profits!

If your spinning frames are still running on a fixed-speed basis . . . go modern! Get the advantages of variable speeds where and when you need them!

For complete information on Texrope Vari-Pitch Drives and Vari-Pitch Speed Changers . . . call the nearest Texrope representative . . . or write Allis-Chalmers, Milwaukee, Wisconsin.

A 1264

Vari-Pitch Speed Changers • Texrope V-Belts • Duro-Brace Texsteel Sheaves • Vari-Pitch Sheaves • Standard Cast Iron Sheaves • Adjustable Pitch Diameter Texsteel Sheaves • 2-3-4 Combination Sheaves • Paraline Automatic Motor Bases • Oil Field Drilling Rigs.

Belts by Goodrich

ALLIS-CHALMERS

MILWAUKEE·WISCONSIN

ADVERTISING PAGES REMOVED

Foreign Wars

Comments by Henry G. Lord

This is the third foreign war during my connection with TEXTILE WORLD, in which the United States has been "involved"; in this one, of course, "short of war."

The present situation reminds me of the first three years of the World War, but I think we have progressed farther along the road to war than in the first eighteen months after the outbreak of the war in Europe in 1914. This is not intended as a critical statement. I am for "all out aid to Britain."

We went into the last World War ostensibly to make "the world safe for democracy," but the real reason why most of us got our dander up and wanted to fight was because of the "Lusitania" and the unrestricted submarine sinking of American ships and other German atrocities. The plea to save democracy is still strong, but the principal emphasis is now laid on saving our own skins by helping Britain lick the Big Black Wolf and keep him away from our shores. Most actions of nations are based on such motives and we might as well be honest about it.

Winston Churchill told the British people that all he could promise them was "Blood, Toil, Tears and Sweat." We in this country haven't got to the blood and tears stage yet, but I hope there will be plenty of toil and sweat.

There was no fear for the safety of our country or our liberties in the World War, but laughable as it seems now, there *was* fear at the beginning of the Spanish War in 1898 that the Atlantic Seaboard might be bombarded by the Spanish fleet which was supposed to be very powerful. No one knew just where it was, but expected that it might appear off our coast at any time. There were conservative people in Boston who transferred their securities and valuables to Worcester and Springfield for safety.

I shall never forget the thrill when the news came that Dewey had destroyed the Spanish fleet in Manila Bay. After that, we had no more fears for we knew we had a real navy.

All Europe, except Britain and Scandinavia, was strongly sympathetic with Spain. American travelers were jeered at in French, Italian and German cities.

It is interesting to recall that when Dewey's fleet sailed into Manila Bay, stripped for action to attack the Spanish fleet, there were also three or four German war-ships and several British war-ships in the harbor and the British Admiral Chichester loaded his guns, sent his crews to their battle stations and warned the German Admiral Diederich not to interfere. "Blood is thicker than water," he explained as his reason. This time it is we who are on the side lines and are stripping for action to help our friends.

I don't recall that the textile industry had to work overtime in the Spanish War to clothe the army and navy. I had expected to get a uniform, as I volunteered for service on the old Coast Guard Monitor stationed in Marblehead Harbor. It was a relic of the Civil War. I was going to stop the Spanish fleet from capturing Salem and Boston, but before I got the uniform the war was called off and so the TEXTILE WORLD continued publication. It's mighty lucky for the textile industry (and for me) that the Spanish War stopped when it did!

HENRY G. LORD, *founder of Textile World and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.*

M. A. Williamson, *Publisher* — Douglas G. Woolf, *Editor*

William B. Dall.....*Managing Editor*
Winn W. Chase.....*Associate Editor*
Howard P. Galloway.....*Assistant Editor*
Gordon B. M. Walker.....*Assistant Editor*
H. S. Knowlton.....*New England Editor*
William G. Ashmore.....*Southern Editor*
Earle Mauldin.....*Southern Editor*
Paul Wooton.....*Washington Correspondent*
William Buxman.....**Manager**

Textile World

NEW YORK
ATLANTA

FEBRUARY 1941
Vol. 91 No. 2

BOSTON
GREENVILLE

A McGRAW-HILL PUBLICATION

CONTENTS

What of 1941?
(Annual Review and Forecast Section)

Editorial Introduction 73
Textiles Hit Jack-Pot Twice Running 74
Machinery Sales Hit Pot, Too 76
Unprecedented Problems Ahead in All-Out for Defense 78
Enter a New Era of Informative Labeling 80
Include Tax and Labor Increases in Costs 82
Progress in Winding Is Year's Feature in Cotton 84
Ring-Spinning Gain Outstanding in Wool 86
Large Headless Packages Set Pace in Rayon and Silk 88
Synthetic Yarn Use Preeminent in Knitting 90
New Process Development First Job in Finishing 92
Preventing Shut-Downs No. 1 Task in Engineering 94
Realistic Approach Essential in Labor Relations 96
Key Textile-Mill Figures in Defense Are Overseer and Operative 98
New Emphasis on Second-Hand-Operative Relationship 100

Management

Mill Ends *(Editorial)* 101
QM Gets $175,000,000 More for Textiles on Long-Term 102
Textiles, Inc., Out of Receivership 107
Certificate Plan Chance Grows 107
Hosiery Men Scan War Economy at Annual Conference 108
Rayon Again Sets Record with New Highs 110
Dermatitis Scare—Quick Action to Forestall Claims 114

Merchandising

New York Acclaimed World Style Center 104
Textile Men Meet with National Cotton Council 106
How Two Important Mills Meet Wool Labeling Act 112

Mill Engineering

Preventing Shut-Downs No. 1 Task in Mill Engineering 94
Textile Equipment News 117

Methods

Fabrics for National Defense 103
Factors Influencing Pebble—From a Throwster's Notebook . . . 113
Fixing Hosiery Machines—Full-Fashioned 115
Fixing Hosiery Machines—Circular 116
More Sliver per Can with Spring-Weighted Card Calenders . . 135
S. C. Carders and Spinners Convene 136
Staple Cotton Fabrics 139
Loomfixers' Manual—Cotton 140
Loomfixers' Manual—Wool 141

DEPARTMENTS

Textile Equipment News..... 117
News of the Month..... 142
New Publications..... 122
The Overseers' Corner..... 133
Questions and Answers..... 137
New Machinery and Processes..... 117
Textile Calendar..... 145
Leading Editorial..... 101
New Dyes and Chemicals..... 120
News of Suppliers..... 124
Free for the Asking..... 130
News About Men..... 154
Textile Mill News..... 166
Overseers' Practical Helps..... 134

FOR CONTENTS BY INDUSTRY BRANCHES, SEE NEXT PAGE

TEXTILE WORLD (formerly *Textile World Journal*) with which are combined *Textiles*, *Posselt's Textile Journal* and *Textile Advance News*. Published monthly. United States and Possessions, Canada and Latin American Republics, $1.50 per year; all other countries, $2, U. S. currency or 12 shillings. Single copy 25c. Annual index in "Textile World Yearbook & Catalog."

Of this issue, 14,120 copies were printed

Member of Audit Bureau of Circulations
Member of Associated Business Papers, Inc.

Contents copyrighted, 1941
by McGraw-Hill Publishing Co., Inc.
(All rights reserved)

McGraw-Hill Publishing Co., Inc., 330 W. 42nd St., New York, N. Y.

JAMES H. McGRAW, *Founder and Honorary Chairman*

JAMES H. McGRAW, JR., *President* — HOWARD EHRLICH, *Executive Vice-President* — MASON BRITTON, *Vice-Chairman*

HENRY G. LORD, *Vice-President* — B. R. PUTNAM, *Treasurer* — D. C. McGRAW, *Secretary* — J. E. BLACKBURN, *Director of Circulation*

BRAGDON, LORD & NAGLE DIVISION

FRANK L. NAGLE, *Chairman* — HENRY G. LORD, *President*

Atlanta.....*1011 Rhodes-Haverty Building*
Boston.....*1427 Statler Building*
Chicago.....*520 North Michigan Avenue*
Greenville, S. C.....*310 Woodside Building*
Philadelphia.....*16 South Broad Street*
Washington.....*National Press Building*

IN THIS ISSUE

CONTENTS BY INDUSTRY BRANCHES

NATIONAL DEFENSE

Unprecedented Problems Ahead in All-Out for Defense ... 78
Key Textile-Mill Figures in Defense Are Overseer and Operative ... 98
QM Gets $175,000,000 More for Textiles on Long-Term ... 102
Fabrics for National Defense ... 103

GENERAL

What of 1941? (Editorial lead to special section) ... 73
Textiles Hit Jack-Pot Twice Running ... 74
Machinery Sales Hit Pot, Too ... 76
Enter New Era of Informative Labeling ... 80
Include Tax and Labor Increases in Costs ... 82
Preventing Shut-Downs No. 1 Task in Engineering ... 94
Realistic Approach Essential to Labor Relations ... 96
New Emphasis on Relation Between Second Hand and Operative ... 100
New York Acclaimed World Style Center ... 104

COTTON

Progress in Winding Features Year in Cottons ... 84
Textile Men Meet with National Cotton Council ... 106
Textiles, Inc., Out of Receivership ... 107
Certificate Plan Chance Grows Despite Opposition ... 107
Double-End Skein Reel ... 117
Metal Top Bushing for Bobbin ... 118
Mildew Preventive ... 120
More Sliver per Can with Spring-Weighted Card Calender ... 135
S. C. Carders and Spinners Convene ... 136
Tracing Cloth ... 137
Finishing Open-Mesh Cloth ... 137
Staple Cotton Fabrics ... 139
Loomfixers' Manual—Cotton ... 140

WOOL

Ring Spinning Gains Outstanding in Wool ... 86
Fabrics for Defense; Overcoating and Tie Fabric ... 103
How American Woolen Co. Meets Wool Labeling Problem ... 112
Woolen Ring-Spinning Frame ... 117
Double-End Skein Reel ... 117
Metal Top Bushing for Bobbin ... 118
Return Air Condenser ... 119
Uneven Yarn in Worsted Fabric ... 137
Woolen Warp Breaks ... 137
Improving Blanket Sample ... 138
Slasher Cloth Construction ... 138
"New Knitted Clips" Are "Wool" Says FTC ... 138
Loomfixers' Manual—Wool ... 141

RAYON & SILK

Large Headless Packages Set Pace in Rayon and Silk ... 88
Rayon Again Sets New High Records ... 110
Factors Influencing Crepe Pebble; by a Throwster ... 113
Double-End Skein Reel ... 117
Rayon Spinning Machine ... 119
Rayon Fabric Construction ... 137
Spun-Rayon Progress in 1940 ... 152

KNITTING

Synthetic Yarn Use Preeminent in Knitting ... 90
Hosiery Men Scan War Economy at Conference ... 108
How Sulloway Meets Wool Labeling Problem ... 112
Fixing Hosiery Machines—Full-Fashioned ... 115
Fixing Hosiery Machines—Circular ... 116
Knitting-Weaving Machine ... 118
Pressing Garments ... 137
Holes in Knitted Fabric ... 138

PROCESSING

New Process Development First Job in Finishing ... 92
Dermatitis Scare; Quick Action to Forestall Claims ... 114
Reel Dye Kettle ... 118
Mildew Preventive ... 120
Skin Protective Agent ... 120
New Dyes ... 120
Finishing Open Mesh Cloth ... 137

FRONT COVER

The printed textile which is the background for our front cover this month was inspired by thought of the important part textiles play in National Defense. The design was executed by Bernice Cramer, of Wesley Simpson, Inc., New York converter. Miss Cramer has studied many branches of art, and was at one time active in interior decorating with the Town Home Service, New York.

IN THE NEXT

The March issue of TEXTILE WORLD will contain three main sections: (1.) *The Regular Issue*, with its balanced coverage of all branches of the industry. (2.) *Guide to Exhibits* at Southern Textile Exposition, to be held at Greenville, S. C., March 31 to April 5. (3.) *Special Section*, devoted to the theme, "*We Speak for the South*," in which a group of people representing the major phases of activity in that section will discuss briefly and specifically the question: "*What the textile industry means to the South; and what is needed to make the industry and the South progress still further.*"

Among the spokesmen for the South will be: A Textile Manufacturer; a Textile Worker; a Mill Superintendent; an Overseer; a Mill Engineer; a Research Man; a Preacher; a Newspaper Editor; a Retailer; a Consumer; a Trade Association Executive; a Textile School Dean; a Vocational Education Director; a Mill Personnel Director; and the President of the Southern Textile Exposition.

ANNUAL REVIEW AND FORECAST SECTION

Textile World

FEBRUARY, 1941 DOUGLAS G. WOOLF, *Editor*

WHAT OF 1941?

1941 will be a crucial year in the history of the American textile industry. It will mark the transition between the actuality of textile depression and the possibility of textile progression.

The actuality of depression is history. During most of the last two decades, textile manufacture has been a sick industry. It was sick long before American business took to its bed in 1929. It has had its recoveries, but they have been abortive ones, followed immediately by disastrous relapses. Only in the years 1939 and 1940 was there anything like a sustained forward movement—and that was due almost entirely to external influences: the European war and the national defense program.

The possibility of progression is history which is still to be written. Those same two impulses—war and defense—dominate the textile scene today, just as they do the situation in all American industries. The extent to which they will be capitalized as stepping-stones to future progress will be determined largely by the policies which will set the keynote in 1941. That is why 1941 will be a crucial year.

1941 will demand a constructive offense on several major textile problems. These are analyzed in detail in the pages which follow. To summarize:

1. 1941 will demand an all-out participation in the national defense program. Not because there are Government contracts with possibilities of profits and pay-rolls involved, but because the safety of the United States is at stake.

2. 1941 will demand, therefore, maximum efficiency in production. This in turn demands continued modernization of policies, plant and equipment; and sound employer-employee relationships. That is why TEXTILE WORLD has made *Modernization* and *Industrial Relations* the theme-song of its 1941 program.

3. 1941 will demand vision in price policies. If ever industrial statesmanship was needed, it is needed right now on this score. On the one hand, it is essential that increased costs due to taxes and wages, including overtime, be included in prices. On the other hand, it is essential that prices be kept under restraint; that no advantage be taken of temporary shortages in any branches of textiles. If patriotism and intelligent self-interest do not dictate such restraint, then the inevitability of Government control will.

4. 1941 will demand vision in wage policies. If ever labor leadership was needed, it is needed right now, on this score. On the one hand, it is essential that labor's past gains be safeguarded, and that labor should share with capital in fair returns on extra effort expended. On the other hand, it is essential that wage-increase demands be kept under restraint; that no advantage be taken of temporary shortages in any branch of textile labor. Here again, if patriotism and intelligent self-interest do not dictate such restraint, then the inevitability of Government control will.

1941 will probably determine whether or not the American system of economy as exemplified by the present textile industry, will survive. Not that there is any chance of a collapse of that system at the end of 1941, but that the policies developed this year will determine the resistance to future strain.

In this country today, we are about where we were at the start of 1917. We face either actual war or a continuing emergency which will have all the economic aspects of war. But we face it on a far larger scale.

Consequently we must look ahead and decide now whether we want another post-war inflation, followed by a deflation. If we want that, then we should face the fact that American industry cannot survive another 1929. Much less can it survive a 1950 or 1955 which, if restraint is not used *now*, would make 1929 look like a minor decline.

We have the advantage of lesson-material in the form of the 1920's and the 1930's. Certainly, no one who experienced both those decades would choose repetition in the 1940's and the 1950's, and thereafter. For it *would* be thereafter, at least as far ahead as any of us have life expectancy.

This writer admits that he poses the problem of "a good trick if you can do it." The business of going all-out for defense, and yet keeping one's shirt on for post-emergency use, is a nice job. And yet the hard cold fact remains that it *has* to be done.

Here is a key: The best way to prepare now, for after the emergency, is to observe the restraints itemized above, and also to make frontal attacks on (1) new product development, (2) organized research, (3) merchandising technique, (4) coordination of trade-association programs. Only by that combination of efforts can we avert the crime which has darkened America's escutcheon for the last decade: the crime of a country rich in actual and potential production of everything that any one wants and needs, and yet poor in the facilities to bring those things to the great mass of people who want and need them.

1941 will demand a purposeful attitude on the part of all of us toward the solution of that basic problem. It will demand an end of opportunism on the one hand, and defeatism on the other hand.

This is a new decade, a new world, a new economy. If present management and labor leaders employ old shibboleths as excuses for their failure to adjust themselves to new facts, then they are doomed. But if they use the mistakes of the past as stepping-stones to the future, then they and all of us can go on.

After Hitler is beaten, we can move forward again. But while we are beating Hitler, we must also make sure that we are laying the foundation for a new and more virile world.

Douglas G. Woolf

Textiles Hit Jack-Pot Twice Running

By DOUGLAS G. WOOLF

WITH ONE RECORD YEAR under its belt at the start of 1940, the textile industry was prepared to relax, but ran smack into the national defense program and changed its course. The result was a second successive production record in 1940.

Specifically, TEXTILE WORLD's index of textile mill activity reached an all-time high of 142 last year (on the basis of 1923-25 as 100) and eclipsed the record of the previous year by 8%. (See Table I and Chart I.)

The textile performance of the last two years is something to write home about. The average index for 1939 and 1940 was 137, against an average of 110 for the last decade, and against an index of 115 for 1929, sometimes referred to as a banner year.

The recovery in textiles from the depression years is best dramatized by a comparison of the last five years with the preceding five years. TEXTILE WORLD's index for 1936-40 averaged 125, against an average of 95 for 1931-35—an increase of approximately one-third!

If the profit curve followed the production curve, everything would be fine and dandy. Unfortunately, the two curves are not synchronized. At the start of a textile boom, an order-hungry industry usually accepts far too much business for far too long a period ahead. At the start of the inevitable reaction from said boom, the same industry ignores manufacturing margins and gives away its shirt for the privilege of booking profitless, or even losing, business. A sour year like 1938, for example, when TEXTILE WORLD's index of activity dropped to 103, plays infinitely more havoc with the profit possibilities than it does with the production average.

TABLE I

TEXTILE WORLD'S Textile Mill Activity Index

1923–25 average = 100

1929	115
1930	89
1931	93
1932	83
1933	104
1934	90
1935	105
1936	124
1937	125
1938	103
1939	132
1940	142

Nevertheless, it is encouraging to report that textile margins have been far more satisfactory, on the average, during the last five years than they were during the preceding five years. Particularly during 1939 and 1940, two active years strung together, there was a better chance for a fair return than during any other two consecutive years of the last decade. If 1941 continues in the same tempo, the prospect of basic improvement will be enhanced.

As a brake on this profit phase is the current realization that runaway prices would not only hasten a disastrous reaction, but would invite Government control in one form or another. Consequently, the textile industry is exercising admirable restraint in matters of price policy during this defense boom.

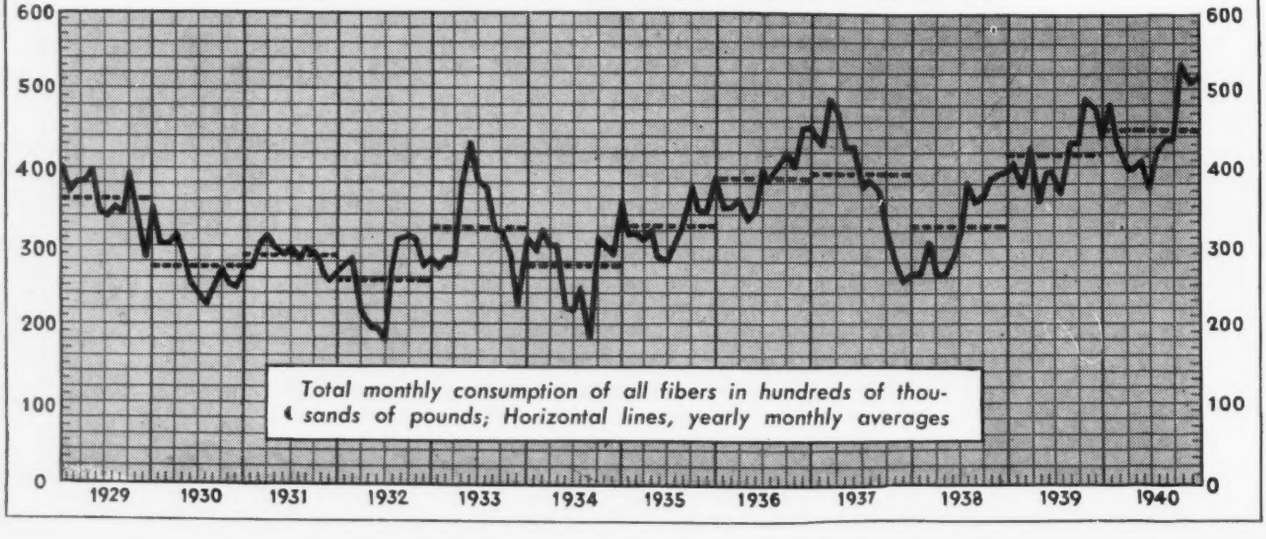
SO, WHAT ABOUT 1941? The outlook is for a maintenance of relatively high production levels.

On the bearish side is the fact that Government purchases of textiles for the current fiscal year ending June 30, 1941, under original appropriations, have been almost entirely placed; and that, as pointed out by the Quartermaster General in the last issue of this publication, similar purchases for the next fiscal year may presumably be lower.

On the bullish side, is the fact that deficiency appropriations for textiles are already in the works for the balance of the current fiscal year, and that increasing emergency may call for sharply higher orders, during the next fiscal year, than now contemplated.

But that is only a part of the picture. Textile purchases for defense are not in themselves the main controlling element in textile activity. They accounted for only about 4% increase in

CHART I—TREND OF GENERAL TEXTILE ACTIVITY



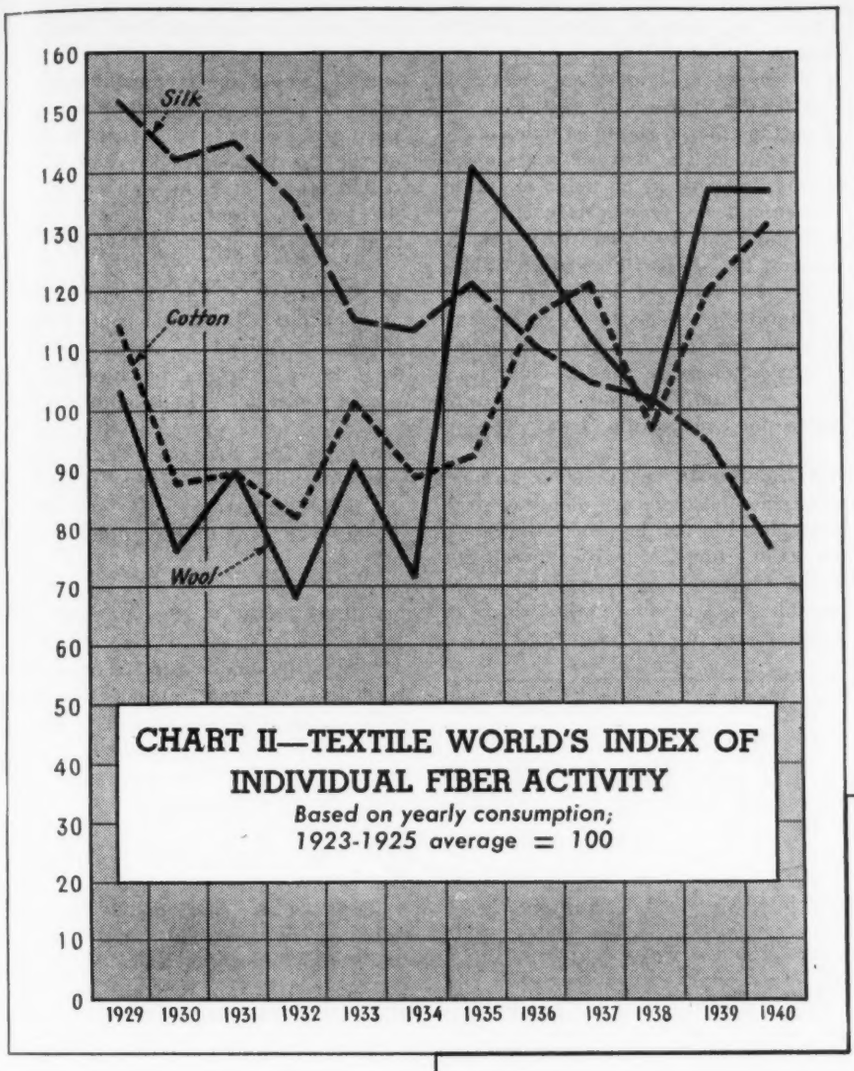


CHART II—TEXTILE WORLD'S INDEX OF INDIVIDUAL FIBER ACTIVITY

Based on yearly consumption; 1923-1925 average = 100

an all-out defense program is no royal road to prosperity. On the contrary, it merely builds up debts which sometime, somehow, must be paid—if not in money, then in inflation and subsequent deflation.

So, with that proviso, it is safe to examine in more detail the cheering news of 1940.

AS TO THE individual branches of the industry:

The best way we can show the comparative performance of the several fibers is by pictures.

Chart II shows the three major fibers —cotton, wool and silk—based on TEXTILE WORLD's textile activity index, broken down from Table I (1923-25 average = 100.) The chart extends for 12 years, 1929 to 1940 inclusive. It will be noted that both cotton and wool were in the dog-house during the first six of those 12 years, while silk was riding high, wide but not entirely handsome, because of a steady drop. In the second six years, 1935 to 1940 inclusive, the picture was different. Both cotton and cotton consumption last year, and for approximately 30% increase in wool consumption. The impulse of the defense program extends far beyond those percentages. No matter what limit may be placed upon the number of soldiers who will have to be clothed and provided with other forms of equipage, there is apparently no limit to the production demands upon airplanes, tanks, ships and other implements of modern warfare. Such demands herald unprecedented activity in the heavy-goods industries, with resulting increase in the national purchasing power, and proportionate increase in non-military textile purchases, for both industrial and consumer uses.

With that as a background, this writer sees no reason to expect a sharp falling off in textile mill activity in 1941. Conservatively, he would estimate a production level approximating the average of the last two years—in other words, another record year.

But no discussion of the future can end with an estimate of mill activity. It must entail the sobering thought that

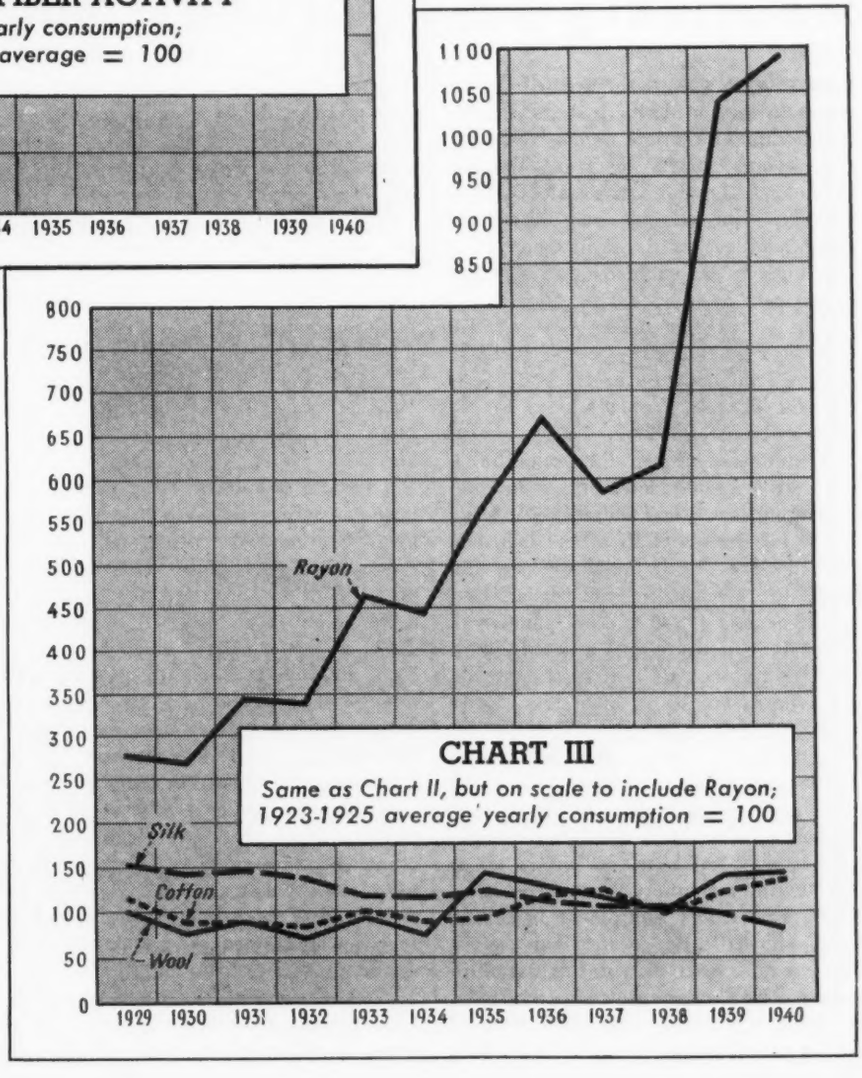


CHART III

Same as Chart II, but on scale to include Rayon; 1923-1925 average yearly consumption = 100

wool went places, while silk went down, down, and down.

Just a few figures: Cotton consumption, on TEXTILE WORLD's index, showed an average of 103 for the 12-year period (1929-40) but recovered from an average of 93 for the first six years of that period (1929-1934) to an average of 113 for the second six years (1935-1940). Wool made even a more startling recovery. Its average for the 12 years was 105, but it jumped from 83 for the first six years to 126 for the second six years. Silk had a higher average (117) for the 12 years than either cotton or wool, but dropped from an average of 134 for the first six years to 101 for the second six years.

Keep those figures in mind, because now we come to Chart III. That might be called a "fun chart," because it includes rayon. We present this chart at great expense of paper and ink, just to show what synthetics have done in relation to natural fibers. TEXTILE WORLD's index for the 12 years shows 558 for rayon, against an average of 108 for the three main natural fibers. More than that, it shows an index of 356 for rayon for the first six years of the period, followed by an index of 760 for the second six years. More still, rayon's index for 1940 was 1090 (on the basis of 1923-25 as 100) against 131 for cotton, 137 for wool, and 67 for silk.

The answer seems to be, as we have pointed out in these columns before, that synthetics are on the march. If they eventually eclipse the natural fibers, don't say we didn't warn you!

ON THE WHOLE we think it becomes apparent that there are plenty of problems ahead in textiles, and no reason to expect dull times. Moreover, there seems to be an increasing chance for a reasonable profit for those mills which are keeping their plant and policies fit.

Machinery Sales Hit Pot, Too

THOSE WHO SELL to the textile industry made history in 1940, just as did the textile manufacturers themselves. For the second successive year, TEXTILE WORLD's index of dollar sales of machinery, accessories and auxiliary equipment to textile mills reached a new high in this exclusive survey which dates from 1929.

The increase in such sales in 1940 over 1939 was slightly over the increase in textile mill activity itself: 10%. That brought TEXTILE WORLD's index to 115 (on the basis of 1929 as 100, as shown in Table II.) From this same table we derive a most interesting, and encouraging, statistical fact. The average index for the first half of the last decade (1931 to 1935, inclusive) was 58, while the average for the second half of the decade (1936 to 1940, inclusive) was 100. This represents a healthy gain of 72% for the last half of the decade over the first half.

But that is only part of the story. This index is based on actual *sales*. It happened that business was slow during the first months of 1940, but picked up sharply in the latter months of the year. As a result, *orders* taken for textile machinery and accessories, and for auxiliary equipment in textile mills, showed a far greater increase for the calendar year than did actual shipments. The further result was that most firms selling to the industry find themselves in a far better position in the first quarter of this year than they did in the first quarter of last year. If no unforeseen circumstances arise—and none seems probable, under the present status of the national defense program—TEXTILE WORLD's index of sales of machinery, etc., to textile mills should register a sharp advance in 1941, reaching a new peak. The amount of this increase is difficult to estimate, but a conservative guess, based partly on expressions from suppliers themselves, is for at least a 10% advance which would bring the index to 126, against the 1940 index of 115.

Thus far we have been talking in terms of averages. Not all supplying firms experienced a 10% increase in dollar sales to textile mills in 1940 over 1939; nor do all firms anticipate a 10% increase in 1941 over 1940. There were some sharp discrepancies in both directions. Some of these could be accounted for by peculiar conditions within the particular companies themselves. Certain of the increases above the average increase were due to extension into new lines, or to perfection of existing equipment. Certain of the decreases were due to loss of markets affected by the war.

The European war, and our own defense program, played of course the dominant part in 1940 transactions and in the expectations for 1941 business. This will be shown in later abstracts from confidential reports. The fact that only a relatively few companies raised the questions of the possible effect of Government commandeering of machine plants for other than normal purposes, and of the eventual effect of the tax bill, when, as and if presented, does not mean—we are sure—that all the other companies were not conscious of the same problems.

BY BRANCHES OF THE INDUSTRY, sales of preparatory, spinning and weaving equipment showed an increase of 20% over 1939; finishing machinery sales were up by 15%; knitting machinery and allied sales were 9% off (due, of course, to the effect of at least temporary over-production in that branch of the textile industry); and sales of accessories and auxiliary equipment were 11% up.

TO COME BACK to the prospect for 1941: Whereas, a year ago, only 43% of the suppliers expressed optimism regarding the year ahead, this year 81% of the firms are hopeful. Against last year's 30% of pessimists is this year's bare 6%. And while 27% last year "didn't know just what to think," only 13% are on the fence this year. That adds up to a swell prospect for 1941.

And this is not merely wishful thinking. Witness the expressions of those who find actual business in the first quarter of this year well ahead of that for the corresponding period of 1939:

"Through a strange set of circumstances, our increased shipments for 1940 over 1939 amount to only 4%. On the other hand, the increased orders for the same period amount to 40%. This is primarily due to the fact that we had very poor business in the first quarter of 1940. Shipments did not get under way until the last six months. After they got rolling things looked very nice. This year starts the ball rolling with more orders already actually on the books than we shipped out in the entire year of 1938." . . . .

"As for 1941, we are carrying over a back-log of unfilled orders 25% more than a year ago. With this running start, we should show at least as good a record this year as last, although new business is not coming in as fast right now as it was a year ago. This is perhaps partly due to the fact that deliveries are so far in the future that it discourages the placing of new business." . . . .

"It is a little too early to make any prediction on sales for 1941, but we can say that business has picked up since the turn of the year and we have

every belief that it will show an improvement over 1940." . . . .

"We expect the first few months of this year to be much better than any of last year." . . . .

"For 1941, for our first quarter, the actual orders on the books are 100% more than orders on hand for the same period of 1939 or 1940. Therefore, you can see by this that the first quarter shows a substantial increase in volume, so that we are looking forward to a busy and prosperous 1941."

But there is this discordant note:

"We enjoyed some stimulation of business from customers with war orders, but not nearly enough to offset our foreign business. We did not commence to feel the effects of the war until the close of the first quarter. In other words, during the first quarter of 1940 our volume was splendid, the decline came in the last three quarters. As a consequence we are anticipating an additional decline in volume in 1941 and are budgeting our production accordingly."

THE DEFENSE PROGRAM and its effects are uppermost in the minds of many. Witness the following:

"I believe that it is inevitable that 1941 sales of textile machinery and supplies will be considerably greater than 1940, unless the war in Europe should suddenly terminate, which at the moment seems unlikely. Greater sales, however, will not and should not mean greater profits. Whether we realize it or not, we are in the war and industry should contribute to the war-effort without expectation of greater profits."

"There is not much question but what there will be considerably more activity shown in the textile machinery field in this coming year. However, it is a question of how well this can be handled with the increasing demand that has already arisen on this defense work." . . . .

"The large amount of defense work we are engaged in producing has limited our ability to supply our regular trade. We are completely sold out for 1941." . . . .

"Most of the increased business can be traced directly to orders for textiles received by our customers from the Government. Many of the machines now under construction are given Government priority rating for delivery. There is every indication that orders for machinery for processing goods for military uniforms and other Government requirements will increase. How much this will affect any increase in business in other lines is hard to determine at this moment. It is quite possible that priority orders for machinery to be used for Government orders will seriously interfere with other lines, and it is, of course, a possibility that machinery to be used for goods that may be determined as unessential under present conditions may actually be forbidden." . . . .

"We are inclined to feel, however, that 1941 should be more than either of the two previous years, barring, of course, the more than likely possibility that our machine shop capacity may be of necessity devoted to defense work for the Federal Government." . . . .

"Taking the long view over the next three or four years, it seems to me that we should all be very busy, whether the war keeps going in Europe or not. If we are to keep this nation on a safe and sane basis, furnishing our own insurance against war, by continuing the plans now under way, then we have at least a five-year program until things can settle into a normal channel." . . . .

TABLE II

TEXTILE WORLD'S Textile Machinery Sales Index

1929 = 100

1929	100
1930	67
1931	57
1932	39
1933	56
1934	63
1935	74
1936	94
1937	94
1938	73
1939	105
1940	115

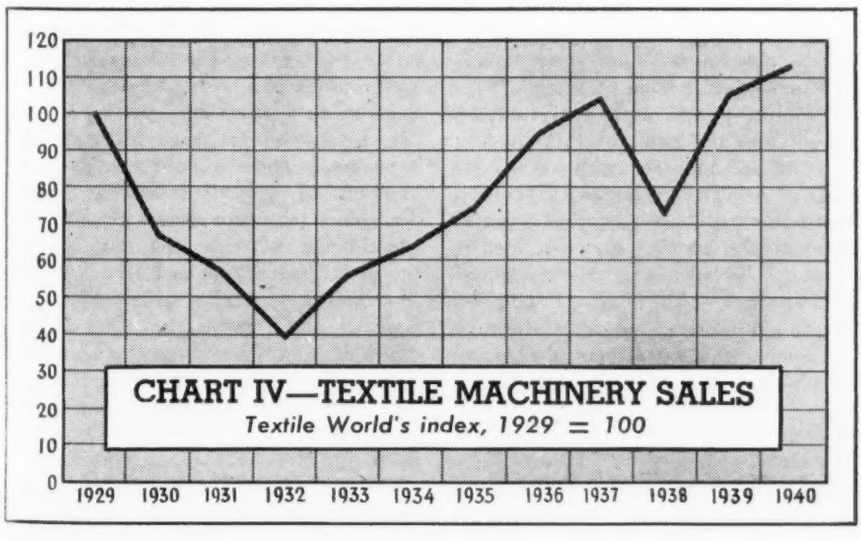


CHART IV—TEXTILE MACHINERY SALES
Textile World's index, 1929 = 100

FINALLY, here are some general observations on the outlook for sales to textile mills:

"We shudder to think what is going to happen to us all when the bubble bursts." . . . .

"We expect 1941 to continue at about the same pace as 1940." . . . .

"1941 opens up wonderfully as to trade interest, survey requests and closed business, a condition which will probably be sustained through the year, but we are going to yell 'ouch' when the tax bill comes around." . . . .

"We do expect our sales volume during the present year to show an increase over the previous two years. There can be no question but what the textile industry as a whole is going to be very active during these 12 months." . . . .

"Naturally, we are very optimistic of the immediate future and cannot help but feel that there will be a further increase in our sales of machinery to the textile industry during the current year, 1941. Deliveries will probably continue to constitute our biggest worry." . . . .

"At the present time there is no change over last year, and it looks like unless there is a particularly large boom developed that the idle machinery would take care of the business." . . . .

"Regarding the outlook for textile machinery sales, we feel that the trend will be for a considerable increase, due to the fact that the national rearmament program is creating more and more employment, and an ever-increasing demand for textile goods." . . . .

"We have every reason to believe that the year 1941 will prove a banner

(*Continued on page 83*)

Unprecedented Problems in All-Out for DEFENSE

ALL-OUT FOR DEFENSE has become a catch-phrase. Statesmen, politicians, columnists, radio commentators, and the man-in-the-street use it all too glibly. In the abstract, it means nothing. But, in the concrete, it means everything.

Specifically then, what does "all-out for defense" mean to textile manufacturers? Does it mean only new orders, higher profits, extra shifts? Does it mean only the super-imposition of another source of business upon an already growing demand due to the effects of this same defense program?

Any textile man who is deluding himself into believing that is all it means is in for a rude awakening. Beyond these immediate effects are the broader implications of the defense program. The best way to prepare for the inevitable shock is to face these few simple facts:

1. If the Government can't get what it needs by ordinary bidding, it may impose priorities.

2. If the Government still can't get what it needs by priorities, it may take over your plants.

3. If the Government doesn't like your prices, it may set its own price levels.

4. If the emergency continues to intensify—and all indications are that it will—we shall be in a war-time condition, either before the end of 1941 or shortly thereafter, whether or not we are in an actual state of war.

5. In that case, profits will be merely paper profits because increasing taxes will eat up the excess—and, in cases of firms who do not take that contingency into consideration, turn black ink into red ink.

6. Excess plant capacity made necessary by the defense program will eventually prove to be the same sort of Frankenstein which was created during and after the First World War.

7. Every cent that we spend on the national defense program must be paid back eventually—whether it be in taxes or inflation. If we choose the former, the sooner we start to pay them, the better. If we choose the latter, then we must be prepared for a subsequent deflation which will make the hitherto unprecedented deflation of the 1930's look like a mild adventure.

8. Every step involved in the national defense program must inevitably mean a greater concentration of power in Federal agencies concerned with prices, wages, hours, and all the other phases which have hitherto been regarded as the prerogatives of individual enterprise.

WITH THAT AS A BACKGROUND of probability, the next logical step in planning for 1941 is for textile manufacturers to determine for themselves the answers to these three problems:

What to do in case the emergency remains in status quo.

What to do in case of a complete emergency.

What to do when either type emergency is over.

If these problems are not faced squarely in 1941, the next years—1942, 1943, and others to follow—will become progressively more difficult. If they are attacked vigorously now, it may be possible to avoid chaotic conditions in the industry in the future.

Let us take up these questions one by one. Assume first that the defense program maintains the same pace set during the latter half of 1940; that purchases for defense during the next fiscal year remain at the same level as during the 1940–41 fiscal period.

The real great danger to the textile industry should such a situation continue is mostly psychological. This year begins the third busy and profitable year for the industry. After so long a period of famine, it is easy for both manufacturers and their customers to forget that this feast-period is pseudo-prosperity. It is easy for them to get into the habit of thinking that this demand may always be here. The natural result is unwarranted plant expansion on the part of the manufacturer, as he attempts to meet requirements of his customers as they plunge into an orgy of speculative buying, enlarged inventories, and price spiraling.

In fact, such conditions already are developing.

For example, no orders for textiles have been placed by Government procurement agencies for delivery after June; yet, a tremendous amount of business has been taken by yarn converters and brokers, for delivery during the third quarter of 1941, of one combed yarn number greatly in demand for 8.2 oz. twill.

Thus far there has been little new plant expansion, but mills able to run three shifts are doing so; others are running overtime and paying time-and-a-half wages; many are adding some new machines; all are increasing production in some way. Numerous outmoded, bankrupt plants long idle are being opened up, meanwhile textile machinery prices have advanced about 20%, and only slow deliveries, or no deliveries, can be promised by the manufacturers.

All textile groups are feeling the result of increased demand. Heaviest Government buying has been of cotton goods; but actually, cotton consumption to date has been increased only 4% monthly as a result of defense buying, compared to a 32% monthly increase in wool goods.

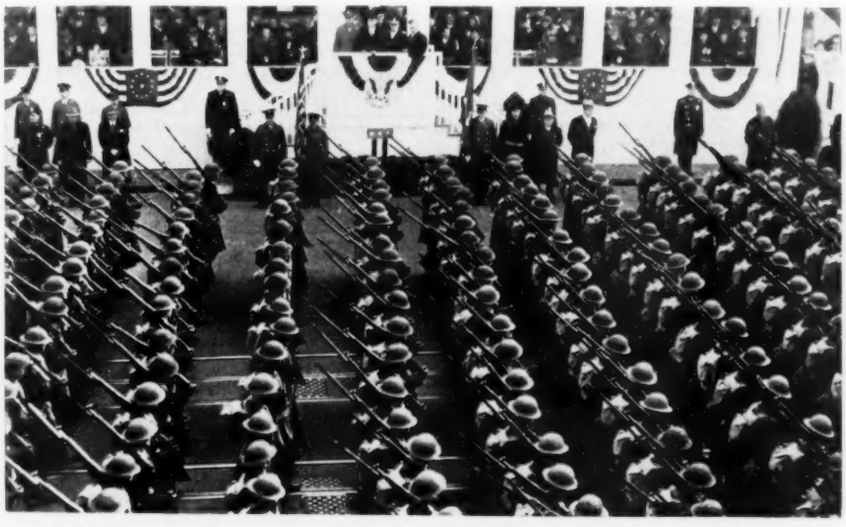
Price advances have been felt, not so much in cottons as in woolens and worsteds. But costs have also increased, and will continue to do so. Already blanket drives are in order throughout the industry for wage-increases. It is possible that these increases will be in effect before spring. And they may, when the emergency is over, be uneconomically sound, but difficult to revoke.

Textile manufacturers should remember the last two decades when the industry was going through the painful retraction period. They should be aware of excess profits taxes to be paid; increasing costs of raw material; increased production costs — all of which must be met through their mills' turnover. They should realize the dangers of unbridled machinery expansion and run-away prices and should not become over-optimistic if there is a continuance during 1941 of the limited emergency.

ASSUME NEXT that there is a complete emergency and that the United States finds it is necessary to raise and maintain an army of 4,500,000 or more men. In that event all discretion as to over-expansion will have to be abandoned; every old, outmoded textile ma-

chine will be drafted for use; and new machinery will have to be rushed into place. Groups already operating at capacity will feel the first brunt of the increased demand for textiles. The quantities of goods which will be required are inconceivable to the layman.

For comparative purposes, consider that during 11 months of 1940, Army awards and contemplated purchases (including textiles for the CCC) amounted to less than 150,000,000 sq. yd. of cotton fabrics, while in 1917–18 production of cotton cloth for the Army totaled over 800,000,000 sq. yd. Last year, 4,485,000 woolen blankets were purchased for Army needs based on 1,500,000 men; during the World War 19,419,000 were bought for an Army of 4,500,000. In 1940 orders were placed for 13,585,000 summer undershirts; in the 18 months of our participation in World War I, 40,895,000 summer undershirts were purchased. Wool socks ordered up to Dec. 1, 1940 totaled 7,000,000 pair; in the last war 89,871,000 were purchased. Although huge overstocks were the result of such purchases during the last war, the same chance will have to be taken when listing probable needs for a new emergency.



Defense theme was emphasized at President Roosevelt's inauguration

With the industry-capacity now liquidated to a normal consumer demand, a complete emergency would force expansion. The industry would face the side problems of high building costs, machinery bottlenecks, credits, and amortization. A textile plant built for defense needs should have the same retirement privileges as a munitions or arms plant; and it should be built with the idea of liquidation at the termination of war. But that is probably not in the cards, and every plant built should carry the realization that it will probably be a "white elephant" after the emergency is over.

Raising an Army of 4,500,000 men would seriously deplete the textile labor supply. That element plus the rigid learner regulations under the Wage-Hour Law could seriously disrupt any production effort on the part of the industry. It is important that a moratorium be declared now on learner regulations in order to insure a supply of skilled labor for draft replacements.

The raw material situation would become acute; and it would be necessary to revise many present Government specifications for textiles. There would be a definite shortage of long-staple domestic cotton of good grade; wool supplies would prove inadequate; silk for parachutes and cartridge bags would be at a premium; the cordage-fiber situation would be grave; fast dyes could not be obtained in sufficient quantities. Changes in yarn and fabric constructions would be needed. Civilian needs would be subordinated to Army demands.

It is doubtful whether it would be possible to keep a ceiling on prices of finished fabrics. To offset the shortage of natural fibers, fabrics consisting in part or whole of synthetic fibers would have to be developed hastily.

NO MATTER which of the two emergencies 1941 brings—a continuation of the present limited emergency or a sudden major emergency—the groundwork should be laid this year for problems which will arise when either type of emergency is over. To prevent a debacle, plans should be made for a quick return to normalcy after the defense program is concluded.

Any expansion or modernization of mills for production speed-up now, should be accompanied by definite plan for retirement of surplus machinery, immediate abandonment of outmoded plants, and a quick shrinkage of production in direct ratio to the shrinkage of Government purchases. This is not an unreasonable proposal, but it will take both individual and group effort, and certainly will call for some sort of market control, anti-trust laws notwithstanding.

Even orderly liquidation of over-productive capacity will bring with it social problems which will have to be worked out. Young men discharged from the Army will have to be reemployed; draft substitutes will have to be let out or absorbed. Possibly, solution of these particular problems can be postponed for a year or so after the emergency. Destroyed textile plants in Europe will have to be rebuilt before they can take over their normal work-load; and in the meantime a world will have to be rebuilt—its people clothed and equipped with domestic furnishings. Ultimately, however, they must be worked out so that when the European industry is rehabilitated, the American textile industry and its employees need feel no great impact.

This can be accomplished in part through research and planned merchandising of new products which must be developed to replace defense purchasing. The textile industry, as a whole and through private enterprise, should investigate the possibilities of research and invest in it. Only through research can the industry develop new goods, new uses, new jobs, to prevent the recurrence of the economic dislocation which followed the last World War and its immediate aftermath.

Many present-day trade associations are the result of needed group activity resulting from the debacle which followed the last World War. It is recognized that in this emergency central leadership is of vital importance; and that such leadership should emanate from each group's trade association. With unselfish and farsighted cooperation of individual executives and properly delegated group leadership, the textile industry can prove that it has gone forward in intelligence since the last World War; that it has profited by its bitterly learned lessons of over-expansion created through a pseudo-prosperity; and that it is capable of facing the problems of 1941 with confidence in its ability to solve them in an orderly fashion.

Enter a New Era of Informative LABELING

By WILLIAM B. DALL
Managing Editor, TEXTILE WORLD

LABELING is a relatively old art. We don't know what the Egyptians did about it, but we do know that the Americans of 100 years ago bought brand names in textiles because they meant quality standards to them. Early labels were not generally "informative," but beyond the brand name they often did carry such phrases as "warranted in color and count," "warranted madder colors," etc.

Now we're headed into an era when individual tags carry as many as 200 words on what the consumer ought to know about the particular fabric, and sometimes more information is offered by mail. This coming era also will see sharp competition in labels, culminating in clusters of tags attached to some merchandise, if all the plans now formulating bear fruit in cardboard and printers' ink. Not only has the consumer movement developed a power which is not to be denied, but distributors and manufacturers, who have tried informative labeling and experienced internal as well as external benefits therefrom, are enthusiastic spreaders of the gospel.

Moving in the same direction with this rising tide of labeling, are coming events which add their strength to the current. First, there is the war threat and defense program, with heavier tax burdens on all and likely higher living costs which will drive keepers of home budgets the country over to make more certain than ever that they obtain the best performance possible in the goods for which they spend their money. Also diversion to military use of some materials may induce changes in fabric make-up which can be told most effectively to a label-conscious public. Second, there is the Wool Labeling Act requiring certain disclosures which the trade recognizes as setting up doubtful criteria for public judgment of fabrics, but opening the way for fuller and more useful data on these same labels, as permitted in the law. Third, hosiery labeling rules are expected from F.T.C. early this year. And fourth, the constant influx of new synthetics is making fiber names more and more a commonplace to the consumer and their use increasingly helpful to manufacturers in any description of their product.

The facts on an informative label should be simple, concrete and easy to understand. Success of the label depends on the combined effort of manufacturer, retailer and consumer. Unless the label helps *both* business and the consumer it fails. The consumer merely wants to know what he is getting, and the consumer movement at core is simply an effort to spend the family income most intelligently.

What to tell the consumer on the label has been the subject of much analysis. The simplest statement is found in answering the three questions: What is it made of? What will it do? How should it be cared for? The most elaborate of five lists we have examined is one which itemizes the following: 1. Trade name. 2. Selling copy (what it is; what it will do). 3. Technical specifications (the hidden features). 4. Care and handling. 5. The company's guarantee. 6. Trade-up suggestions.

A pre-requisite for good labeling is a common language, a definition of quality points which may be generally understood, which involves setting up standards for color fastness, fabric durability, warmth, etc. The newly revised color-fastness standards to be issued by the National Bureau of Standards as CS59-41 recognizes that all fastness is relative and provides four degrees of fastness to washing and five to light. These are based on standard tests and are given simple names for consumer recognition. Such information aids in selection of fabrics suited to the proposed use and may prevent a house-dress fabric from turning up in bathing suit, and thus avoid consumer disappointment and possibly a claim against the seller based on the fading such a fabric would doubtless exhibit.

Other classes of standards include those of fiber content, fabric construction, shrinkage, and strength, with other matters such as fabric warmth and resistance to abrasion, water, dirt, moths, creasing, etc., still in process of being worked out. A group of food distributors have agreed to use A, B, C ratings on canned fruit and vegetables to disclose the grade of contents, and, although it is a long step to such simple classifications of textiles, it may eventually be possible, at least in the field of staples.

ADVANTAGES to the consumer of informative labeling include the following:

1. Gets goods best suited to his needs at price he is willing to pay.

2. Saves time and energy in buying; avoids time lost in returning unsatis-

factory goods whether or not replaced.

3. Increases consumer satisfaction.

4. Gives better appreciation of higher grade goods.

5. Protects against degradation of quality.

Distributors who have set up an informative labeling program find that the internal benefits to their own organization actually outweigh the benefits to the consumer. These benefits to the distributor follow:

1. Provides salespeople with pertinent facts at point of sale and aids in their training.

2. Is a silent salesman when shopper finds no salesperson at hand, and answers customers' questions.

3. Cuts down returns due to misuse and improper care; reduces claims.

4. Speeds up selling and makes salesperson's job easier.

5. Encourages better planning of lines by often revealing no real need for so many items in some assortments, and results in lessened inventories.

6. Encourages better buying by distributors by turning their attention to specifications and laboratory tests.

7. Increases sales of higher-priced goods by indicating performance values which lead consumer to trade up.

8. Permits more effective advertising, and newsy promotions within the store based on points vital to consumer.

9. Prevents over-selling and consequent dissatisfaction of the consumer.

10. Increases consumer confidence, which spreads to other departments of the same store.

11. Manufacturers who supply needed information find it easier to sell distributors who believe in labeling, and manufacturers who label find new demands for their goods.

"LABELING THE LABEL" is a feature of present technique. Foremost among the labeled labels is Pacific Mills "Factag." These labels when used on cottons give a fastness rating to washing and to light, fiber content, washing and handling instructions and special characteristics of the individual fabric whose trade name is given on the face of the label. For rayons the Factag gives fiber content, and washing and handling instructions. As soon as fastness and shrinkage standard tests have been worked out for rayons by the industry, Pacific will adopt them. For worsteds, Factags are in preparation.

The original Factag is a hang tag supplied to garment manufacturers who use Pacific branded fabrics. The tag has lately been applied to over-the-counter piece goods by the insertion of ten Factag slips next to the board with every 30-yard piece, so that one may be given to each buyer of a normal dress length from that bolt.

Pacific's tag is the first tag to use the new fastness standards of the National Bureau of Standards. The tag was developed as the result of surveys and tests in the field, and the company is enthusiastic over the results obtained since its introduction in April of last year.

Sears, Roebuck & Co. has originated a family of tags under the name "Infotag." They tell the complete merchandise story, avoiding the use of numerous labels, tags, etc., on one item. The Infotag on Sears terry towels gives towel size, thread count, fabric weight and amount of water absorbed per square yard of fabric, as well as other facts on which consumer can estimate the character of towel service offered at each price. On sheets the Infotags give thread count, breaking strength, fabric weight and other data. Sears, as a distributor, is facilitated in presenting these data on its labels because it buys a large part of its materials on specification and has its own laboratory for checking or for amplifying the information.

Montgomery Ward & Co. has instituted a series of informative labels. On its sheets, for example, are labels giving thread-count, information on finish, selvage and an estimate of probable years of service.

Arlington Mills utilizes a group of tags stressing the naphtha-cleansing of their raw wool. In some cases the brand "Arlingcrest" is used, and in other cases merely "Naphthalated Wool" since that process is sufficient to identify the fabric as their product. Added information on service and care is given on these tags.

A tag called "Telltale, the tag that tells the tale" has been adopted by Arnold Print Works for use with that firm's Fibredown "electro-broidered" fabrics. It gives laundering instructions to aid in the satisfactory use of the materials. This hang-tag is supplied to cutters for attachment to garments.

From quite a different type of source comes a widely varied group of labels now used by companies including American Woolen Co. (for blankets), Gotham Silk Hosiery Co., William Carter Co., Jantzen Knitting Mills, Duofold, Inc., etc. These are inspired by Calgon, Inc., makers of a water "normalizer" which aids in home laundering. The labels give general data on the product, but have the common factor of advising washing in soft water and explaining that hard water may be made soft by Calgon.

Many of the rayon companies have utilized informative labeling for several years, in particular stressing identification of the product as having conformed to certain standards of performance.

The National Consumer-Retailer Council has an active program for informative labeling and will permit the use of its name on a label which has met with its approval.

AS 1941 PROGRESSES, label authorities expect to see a rapid spread of the gospel of informative labeling. There will be progress in acceptance of uniform standards and definitions so that the consumer will recognize a common language of the market place. The movement is a constructive service to the consumer in which already so many large interests are involved that less and less outside policing will be needed. It is a program in which even the small mill may join at no great expense and with high returns in favorable publicity.

THIS GARMENT IS GUARANTEED TO BE MADE FROM
100% NAPHTHALATED WOOL
For Naphthalated wool, the virgin fleece is first cleansed by naphtha baths, then gently washed in pure water. This eliminates the usual soaping, scouring and excessive handling and preserves the original life, strength and resiliency of the wool fibres.
100% NAPHTHALATED WOOL
Arlingcrest
Morning Glow
MERIT
TURKISH TOWEL
'orning Glow
IMPERIAL
TURKISH TOWEL
Morning Glow
The MIRACLE Towel

Include Tax and Labor Increases in COSTS

MANUFACTURING COSTS — especially labor and taxes—are rising rapidly and indications are that they will continue to increase during the next year. The cause of this increase includes several factors which cannot be evaluated with absolute accuracy at the present time. Despite this uncertainty the intelligent mill executive must begin now to calculate how much of his balance-sheet earnings can be retained for the stockholders of the company and for normal corporate purposes. No patriotic business man under present conditions can complain too much about increased costs resulting from the defense program, but at the same time the executive is not looking after his stockholders unless he takes all these matters into account in making up costs and selling prices. Probably the best way of meeting this situation is to figure out a "safety factor" which will cover these increased costs.

Let us look at some of the conditions which are likely to affect textile manufacturing costs during the next year:

The numerous army camps being built under the defense program already are causing excessive labor turnover in several sections of the South adjacent to this construction work. An additional drain on the labor supply in the vicinity of these camps is the increased activity of general business. This development is much more serious than many realize because of the large number of camps under construction and the wide areas affected. Some of the more important textile centers adjacent to army construction are Columbia, S. C., Spartanburg, S. C., Greenville, S. C., Anniston-Birmingham, Ala., Atlanta, Ga., Columbus, Ga., etc.

The draft in itself has not been keenly felt in textile plants yet, but it will be more important later and will cause further increased cost as workers have to be replaced.

Due to pressure for goods needed for defense and other purposes, more and more mills are starting up extra shifts. As is always true in these cases, the extra shift costs more than anticipated because of the difficulty of getting the organization into operation and because of the lower than standard efficiencies of the large amount of green help.

TABLE I— FABRIC MILLS

Type Goods	*Production Per Loom Week (40 Hr.)*		*Safety Factor Per Loom Week (40 Hr.)*	*Safety Factor Per Yard Cloth*	*Safety Factor Per Pound Cloth*
	Yd.	*Lb.*			
Print Cloth....	127	32	$ .4160	$ .0033	$ .0130
Sheeting.....	222	59	.5900	.0027	.0100
Denims.....	227	117	.9360	.0041	.0080
Combed Broadcloth.....	119	28	.8400	.0071	.0300
Rayon Taffeta.	141	26	.3900	.0028	.0150

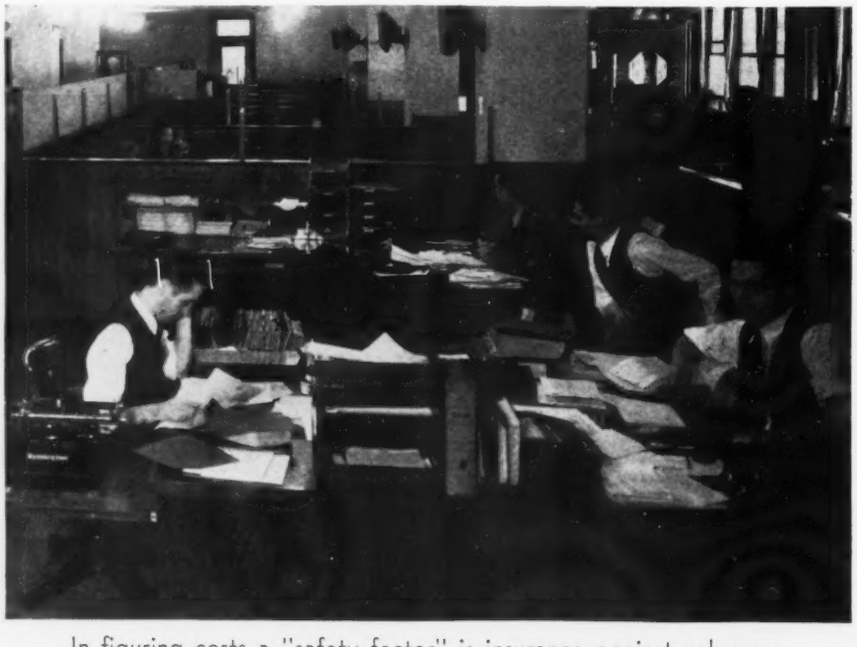
Another cost which must be added to the safety factor is that of mill supplies which probably will be up 10 to 15% during the next six months to a year, and possibly up 5% during the first quarter of the year.

THE QUESTION of wage rates is problematical. It is true that the cost of living has not advanced as rapidly during the last quarter as it might have, but on the other hand a mill is fooling itself in predicting future costs if it does not take into consideration the possibility of some increase in wages. There have been rumors of wage increases for several months, but so far there has been no concrete evidence that many mills have made such increases.

The fact that many key men and semi-key men in southern mills are graduates of textile schools where military training is required is worrying many mill men. A large percentage of these graduates are eligible to be called to active duty as reserve officers, and if the present trend continues there is likely to be a shortage of good executive and supervisory personnel—which naturally will be reflected in manufacturing efficiency and costs of the future.

In addition to being employed in supervisory capacities, many of these textile-school graduates are engaged in research work, cost figuring, cost-control work and various technical studies which normally result in increased efficiency and lower operating costs. If these technical men go into the army, it is obvious that mill operation will suffer. Possible loss of these men should be taken into consideration at the present time and plans made accordingly, even though it increases the mill's costs temporarily.

Past experience has shown that when the textile industry becomes profitable,



In figuring costs a "safety factor" is insurance against unknowns

there is a tendency toward slackness in regard to watching and controlling cost. In some cases this trend might become a considerable burden if not followed closely. Pressure for additional production, also, often results in excessive manufacturing cost if this slackness is not checked.

IT IS OBVIOUS that taxes will continue to rise, and in figuring costs this factor must be taken into consideration. As previously stated in an article it is impossible to say just what this increase will amount to during the next year, but it is manifest that every man, woman and child in the nation must make a heavy contribution to the cost of national defense and to the cost of operating the Government under present-day conditions. It is equally plain that the machinery for collecting taxes is too expensive and too cumbersome for the Government to attempt to reach more than a small percentage of the individual and business concerns of the nation. This means that an increasingly heavy load of taxes will pile on the manufacturer, converter and large distributor, with the expectation that this load will be distributed to the consumer in the final price of the finished article.

The manufacturer must include in his cost estimate the item of increased taxes so that the difference between his cost arrived at in this way and the price at which he sells his goods will indicate to him the amount of income he can retain for his stockholders. One textile concern making heavy goods has set up a budget calculation for the next twelve months basing production and profits on previous records. The accounting department has found that it will take a trifle over lc. a pound on the mill's estimated production to pay the income and excess-profit taxes calculated according to the terms of recent legislation covering this matter.

None of the things just mentioned can be figured with absolute accuracy. The best that can be done is to use all experience available and make an estimate as to the probable affect of the defense program during the next year or two.

IT IS DANGEROUS to attempt to write a formula for a safety factor which would apply to all branches of the textile industry, but it is possible for an individual mill to take each of these cost elements and apply them carefully to its own case. By taking each item separately and estimating how much it is likely to increase during the next year, a safety factor may be worked out which can be applied as a percentage to the manufacturing cost or on a spindle or loom basis, whichever is the more appropriate.

TABLE II— YARN MILLS

Type Product	*Pounds Per Spinning Spindle Week (40 Hr.)*	*Safety Factor Per Spindle Week (40 Hr.)*	*Safety Factor Per Pound Yarn*
Carded Yarn (20s Hosiery)	1.61	$.0121	$.0075
Combed Yarn (36/2 Weaving).....	.88	.0141	.0160

It should be borne in mind, however, that these safety factors should be revised periodically to meet changing conditions, and it should always be remembered that the safety factor should not be lost in the standard manufacturing cost. To combine the two without some means of differentiation is very misleading and might cause the mill to develop a tendency to equal the manufacturing cost plus the factor. In other words, if the standard is changed to a higher basis it is natural for the manufacturer to change his viewpoint, which could result in excessive manufacturing cost. To offset this danger, it is vital that the safety factor be kept entirely separate, and that the standard manufacturing cost and budget be figured as carefully as possible without the safety factor. Then, the factor can be figured and taken into consideration after the standard manufacturing cost is calculated on each fabric or count of yarn.

Looking at it another way, the mill should strive to equal its standard manufacturing cost without a safety factor, but, realizing that there is a likely chance that costs will go up, a safety factor should be taken into consideration to keep stockholders from being disappointed by a lack of profit at the end of the period. It is not practical in this article to suggest safety factors for the entire textile industry, as each case is different, but a few suggested factors for basic goods are shown as illustrations in the accompanying tables. These were arrived at by estimating possible increases in labor, taxes and other items described in the text.

Machinery Sales Hit Pot, Too

(*Continued from page 77*)

year for us, if the many orders which we are now receiving for equipment is any criterion of what is to take place for the remainder of the year. Naturally, the outlook for textile machinery is exceedingly bright and we are confident that many uses will be found for equipment during the present season, particularly where this equipment is necessary in connection with the preparedness program." . . . .

"For 1941 and at least part of 1942, we expect increasing business activity in every line and, in fact, our business on hand at present is equal to about 36 weeks of normal operation. Of course, in any prediction for the future we have to keep our fingers crossed and qualify every statement with due respect to happenings across the sea." . .

"As for what is ahead it looks like plenty of volume but precarious profits." . . . .

"I believe that you will find that the limiting factor in gain for 1941 will lie not so much in business available, as in the limits imposed by plant capacity." . . . .

"As regards 1941, we are in a war situation at the present time and with the business activity all over the country our output is in great demand, and it is not a question of sales but a question of how much volume can be properly made. We would look for a sales volume somewhat higher than in 1940."

THE NET CONCLUSION to be drawn from all this is that those who sell to textile mills face a better prospect today than at any time since the beginning of the textile depression in the early '20s. The extent to which they can capitalize on this prospect depends not only upon the future trend of textile business, but upon the initiative of the individual suppliers in modernizing their equipment, in seeking new markets, and in sales promotion efforts. These three opportunities which this writer has been preaching in season and out of season for almost 25 years to the textile manufacturers themselves, are equally fertile fields for those whose business it is to sell to those same manufacturers.

Automatic Winding Leads Progress in COTTON

By HORACE L. PRATT
Columbia (S. C.) Mills

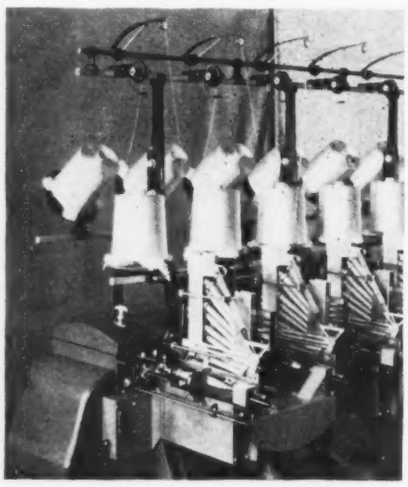
MORE HIGH-SPEED LOOMS, with bigger beam heads and larger filling bobbins, will be needed in 1941 to meet the production demands of the defense program plus increased civilian consumption. To feed these looms, mills will find it necessary to increase productivity of other equipment, particularly winders and twisters. Fortunately, great strides in improving winding equipment have been made in the last year, and 1941 should see the installation of many of these new machines. Use of automatic devices on equipment, as characterized by the winders now being offered, must spread to other machines if textile production is to be maintained in the face of a possible shortage of labor resulting from the defense program.

Development during the last year of machines for handling long-staple rayon will make possible an even greater use of synthetic staples, particularly in blends. Mill installations of such equipment will doubtless be a major development of the year ahead. Likewise, many of the other machinery improvements announced in 1940 will help answer the problems of 1941.

In Europe automatic filling winders of various types have been in use for some time, and a number of these machines have been imported into this country. With imports of these foreign machines virtually stopped, the announcement last year by two American machinery builders of commercial production of automatic filling winders came at a most opportune time. These run at higher speeds and require less operative effort than conventional machines and are expected to lower winding costs considerably. On one of these machines[1] a broken end stops only one spindle, and the machine's construction makes it possible to remove, repair, and replace any desired individual unit while the machine is running; minute adjustments are possible. The other automatic filling winder[2] features an electrical-mechanical automatic doffer, and attains unusual speeds through use of a rotating cam as actuator of the traverse motion; bobbin hoppers hold 10 to 12 bobbins, spindles are controlled in units of two, and standard machines have 48 spindles in six 8-spindle sections; the combination of electrical and mechanical parts simplifies the design and reduces the number of parts.

Another automatic winder[3]—this one for winding knitting cones, with possible yarn speeds up to 700 yd. per min. —has small-diameter hardened-steel cones and high-alloy steel moving parts, the whole mechanism moving in a bath of oil; cones are wound with a 9° taper on the inside, and a 12° angle on the finished package; spindle and cone are moved endways to give a well-curved base and concave top. Other features include a full-package indicator, interchangeable knotters, tension devices, slub catchers, a magazine which can accommodate a variety of bobbins, and simplicity of operation.

For producing tubes or cheeses, a doubler-winder[4] which can be equipped for drawing from either bobbins or cones has a head-end V-belt drive and shafts that are completely equipped with ball bearings; to prevent run-ins, the spindle-stop action limits top winding speed, and the tension arrangements assure equal tensioning of the ends; a quick-acting stop-motion and an adjustable blade-type slub catcher are provided. Other improvements in winding equipment include new type snick plates[5] and refinements in tension brackets and slub catchers[2].



One of the two automatic filling winders made available last year, typifying the trend toward increasing development of automatic equipment

RAYON STAPLE. To cope with the difficulties arising in the processing of rayon staple on standard cotton equipment, at least three machinery builders are offering modified machines. Thus, a roller card[6] built on the chassis of a standard cotton card handles staples up to 3 in. in length; a special 4-roll assembly for drawing frames[6] consists of a set of fluted steel bottom rolls and leather-, cork-, or synthetic-covered top rolls; for installation on regular spinning frames, a roll assembly for long staple rayon[6] utilizes a leather apron between back and front rolls and makes possible drafts as high as 25; a roller card[7] similar to woolen cards but with fewer workers and strippers is designed to give greater production and fewer neps; for handling staples from 1¾ to 3 in. in length, new large-size roving and spinning rolls[1] and a new drawing frame[1] which uses larger rolls make possible greater fiber control and allow roll speeds approaching those used on cotton.

Two fiber cutters[2,8] each with its own special advantages, handle a variety of fibers and cut a wide range of lengths.

CARDING, SPINNING, TWISTING. Employing mechanical and centrifugal forces, a new cleaner[9] for cotton consists of six horizontally-mounted beaters in tandem; each beater works over a screen, and no air currents are allowed to interfere with the centrifugal effects or to carry foreign matter through with the cotton; other features include wide doors for easy cleaning, oval beater blades, chain-and-sprocket drive, and ball bearings.

A recently offered air stripper[6] for cotton cards reduces the amount of dust and fly in the atmosphere and does not damage card clothing; the unit consists of a high-speed stripping roll which removes waste from the card clothing and transports it to the mouth of the vacuum system.

Applicable to practically all of the manufacturer's roving frames, a spring-actuated full-bobbin knockoff[9] composed of three studs, one lever and a spring

works faster and more smoothly than the old knockoff due to elimination of the inertia of the weight and the friction of the studs.

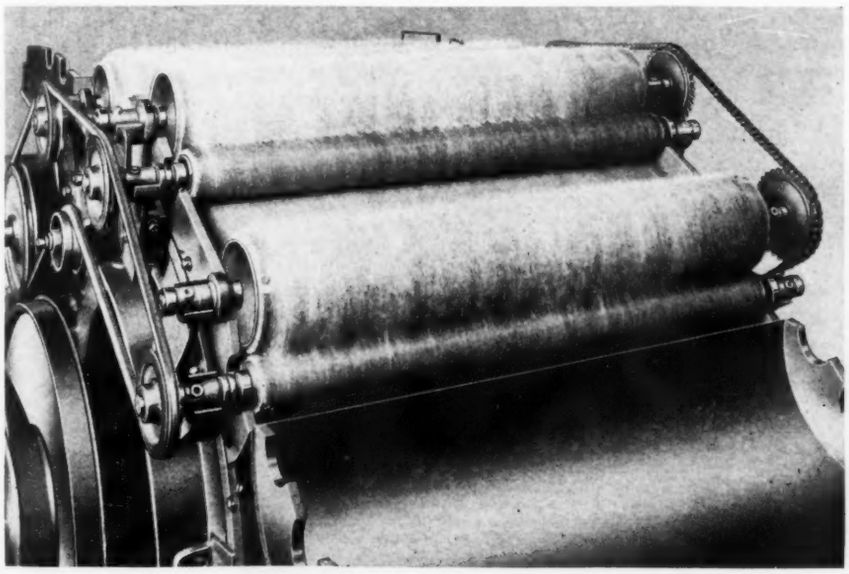
Recently introduced ball-bearing shell top rolls[1] for roving and spinning are designed to be rigid, accurate, and lint and dust free to the greatest practical degree; the arbor is a single strong piece of steel tapered at each end, and there is a depression in the center for locating the weight hook, assuring equal load distribution; the grease reservoir is designed to provide adequate lubrication and to require filling only once a year on a single-shift basis; shells are securely held by snap-rings but are easily removable.

Double screw-coupled roll necks[1] for roving, spinning, and twister rolls eliminate swelling of the bosses which results from driving ends into rolls; advantages claimed include positively concentric fit, no loose squares, necks readily replaced, greater accuracy in length, elimination of cracked or split ends, and lower upkeep cost.

On a recently announced ring twister[10] the builder chain has been increased in size and hardened, and the builder drive has a ball-bearing thrust washer which eliminates dwelling at the ends of the traverse; the spindles and cylinder have anti-friction bearings and can be rotated in either direction; and helical cut cylinder and jack gears insure smooth running and longer life.

For handling warp yarn from spinning frames to spoolers[11], a new method developed especially for mills using automatic spooling provides for doffing spinning frames directly into baskets on a double-deck doff truck; trucks are provided with sufficient baskets to supply an entire side of a spooler. On the spoolers, angle-iron supports run the full length of the frames and baskets are placed directly on the irons; advantages of this system include elimination of damage to bobbins, such as soiling, sluffing off, etc., which might result from unnecessary handling, and release to other duties of some of the helpers formerly required to supply bobbins to spoolers.

Renewable paper tubes[12] for wooden bobbins have been introduced as a means of decreasing the expenses of replacing rough, cut, or splintered wooden bobbins without requiring any change-over of weaving and winding equipment; the tubes are glued in place on wooden bobbins which have blank barrels turned to the correct size and are provided with an exceptionally smooth corrugated surface for free but controlled delivery of all types of yarns; resistance to chipping, splintering, roughing and moisture gives the tubes long life; but when damaged or worn out, they can be cut off and replaced at little expense. Wood blanks for use as cores can be supplied by most wooden bobbin manufacturers.



To help overcome difficulties of processing rayon staple on cotton machinery, modified machines are being developed; photo shows a roller card which is designed to run rayon staples up to 3 in. in length

WEAVING. For production of heavy fabrics up to and including light duck, and in widths up to 72 in., a new cotton loom[13] is provided with extra weight and strength and has 20% more speed than previous looms of similar type, harness motion can be motivated by either cams or a dobby, up to 20 harness, and shuttle-box constructions are designed to allow use of shuttles carrying 8- to 9½-in. bobbins; the take-up roll accommodates rolls of cloth up to 21½ in., and beam space allows use of beams with 26-in. diameter heads.

For narrow-fabrics weaving, a recently introduced shuttleless loom[14] weaves a range of widths from ¾ to 2⅞ in., eliminates shuttles, bobbins, and cops by using filling from cones, and is capable of vibrationless high-speed operation.

Of tamper-proof design, a new shutter-type pick counter[15] is so constructed that when the resetting key is inserted, shutters cover all windows and the change must be carried through to zero; the counter is for 2-shift operation, but can be converted quickly to a 3-shift counter. Another improved pick counter[16] of the 2-, 3-shift type features built-in Yale locks to protect the mechanical honesty of the counter against unauthorized tampering.

Other improvements in weaving equipment include an electric warp stop-motion[17]; improved selvage harness[18]; and rawhide loom pickers[19] of advanced design and construction.

Developments of general interest to cotton manufacturers include: brushes[20] made in a variety of shapes and sizes for machine and hand use, and employing a unique construction in which the tufts are held in rigid steel backings that can be locked securely in a metal core fastened to the machine; yarn guides[21] made from a chemical-resistant homogeneous material that has no outer coating to crack or wear through; a truck[22] for handling and stacking bundled and baled materials which enables one operator to unload a carload of cotton bales in 2 hr.; and a magnetic separator[23] for removing miscellaneous bits of iron from cotton, jute, and similar materials before they are passed to cards or garnetting machines.

Key to the names of the manufacturers of the machines described: 1, Whitin Machine Works. 2, Universal Winding Co. 3, Abbott Machine Co. 4, Foster Machine Co. 5, Barber-Coleman Co. 6, Saco-Lowell Shops. 7, Davis & Furber Machine Co. 8, H. W. Butterworth & Sons. 9, Centrif-Air Machine Co. 10, H. & B. American Machine Co. 11, W. T. Lane & Bros. 12, American Paper Tube Co. 13, Draper Corp. 14, Clutsom Machines. 15, Waltham Watch Co. 16, Veeder-Root, Inc. 17, Bahan Engineering Corp. 18, Steel Heddle Mfg. Co. 19, Danielson Mfg. Co. 20, Fuller Brush Co. 21, American Lava Corp. 22, Clark Tructractor Div. of Clark Equipment Co. 23, Dings Magnetic Separator Co.

Ring Spinning Gain Outstanding in WOOL

By JOHN C. LOWE
Lowell Textile Institute

GOVERNMENT DEMANDS, plus increasing consumption of wool goods by civilians, due to increased employment, may produce a critical situation regarding woolen and worsted production in 1941. Much old equipment will be overhauled, modernization programs will be speeded up, and new equipment will be constantly in demand. Woolen ring frames will increase greatly, and many worsted cap frames—both spinning and twisting—will be changed over to large-package ring system.

Controlled scouring, more scientific use of detergents, and substitution of mineral oils in wool oiling will all increase. Possible wool shortages as regards civilian goods will be met by greater use of reworked fiber and increases in blends of wool and rayon staple fiber. This will mean that more yarn manufacturers will modify their equipment to handle such blends.

Shortage of trained textile operatives will represent a serious problem, which will have to be overcome. Progressive concerns are already developing training programs to assure an adequate supply of competent labor. There will be increasing calls for research engineers and textile technologists to study mill problems scientifically.

So far as 1940 is concerned, the country's national defense program was without question the most important and immediately felt general development. Problems which arose, however, had their genesis more often in the field of production requirements than in technical difficulties. Increased mill activity called for greater efficiency, accelerated modernization programs, and the breaking of such equipment bottlenecks as resulted from forced production of certain textiles in abnormally large quantities.

In the woolen-yarn field, the large increase in demand for ring spinning equipment is a development worth more than passing note. Demand in 1940 is stated to have been four times that of 1939, and the 1939 figures to have tripled those of 1938. According to one authority, 20% of the total woolen spindles in the world are now ring spindles.

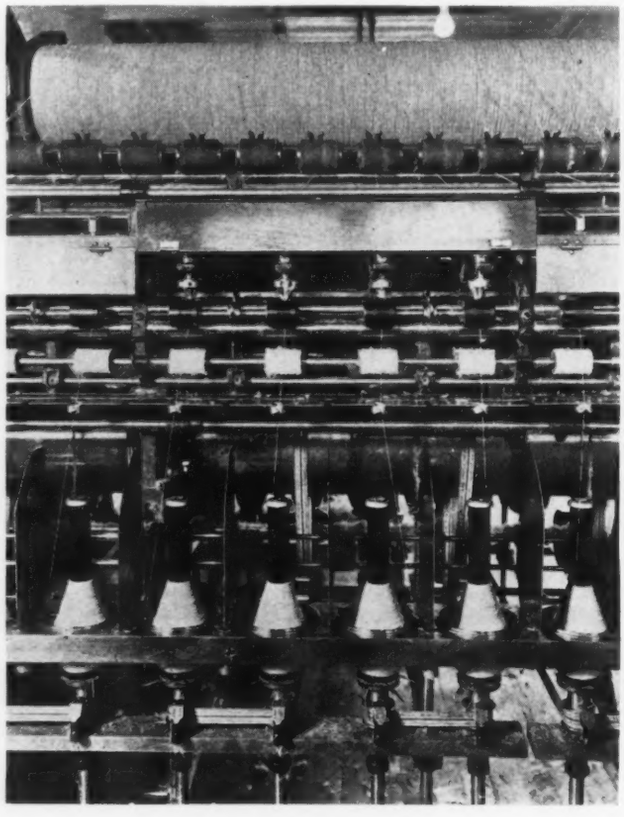
Announced early in the year was a 60-in. card[1] developed especially for rayon staple; cylinder, stripper, and doffer are covered with metallic wire, while tumblers, workers, and fancy are covered with card clothing; the card can be equipped with a tape condenser for use in connection with woolen spinning equipment.

Several devices for use with present wool equipment were made available in 1940. A steel-plate wool blower[2] embodying many improvements is designed for installation in existing stock-conveying systems without changes in pipes or switches. An equalizer[3] for improving evenness of woolen and worsted carding consists essentially of a plaiter connected between breaker doffer and intermediate feed; any irregularities which show up can be overcome by varying the rate of travel of the plaiter. A bunch-saving attachment[4] for woolen mules is intended to make possible controlled length of bunch, uniform bunches on every mule, decreased waste, and reduced yarn breaks at the loom.

Demand for large-package worsted ring spinning and twisting frames continued in 1940, and manufacturers of this and other worsted equipment brought out numerous devices to better production and quality.

For tape-driven spindles on spinning, roving, and twister frames a newly designed tape-tension pulley[5] was offered; advantages claimed include reduction in tape tensions, more uniform spindle speeds, and increased tape life. Welded, stainless-steel spools and bobbins[6] are finding favor; the spools are easily cleaned, are not affected by steaming or conditioning, and are practically indestructible; it would appear logical to extend use of this material to worsted drawing and spinning bobbins.

An improved stop motion[7] which has



Greatly increased demand is reported for ring spinning equipment in both woolen and worsted fields; photo shows late-model ring frame for woolen yarns

been applied to gill boxes and may be applied to Noble combs, has been offered.

Reduction of loss of time in doffing is the aim of a new self-contained reeling machine[8]; the reel holds five skeins; one of its spokes is collapsible and skeins can be drawn off the end of the reel without use of any doffing mechanism. For the traverse bar of twisting and winding machines a new guide[9] is designed to aid uniform twist by assuring accurate guide alignment and more uniform tension. Higher winding speeds are obtainable with an improved high-speed doubler,[10] which also makes possible equal tensioning of more ends; a combination of quick-acting drop-wire and brake enables single-end piecings to be made when ends run out.

A counter-balanced grate-type tension device[11] is intended for use when running all types of yarns, from finest to coarsest; it can be attached to almost any standard yarn creel.

Proper conditioning of yarn being wound is said to be effectively obtained by use of conditioning rolls[12] attached to the winder, which have recently been introduced.

Yarn levelness, and other physical characteristics, such as hairiness, appearance, etc., can be checked, and a permanent record made, using a method[13] first described in TEXTILE WORLD about eight months ago; so far this system has been used only on jute; but its use in woolen and worsted yarns is suggested.

Stroboscopes[14] designed for the textile industry have value for purposes of motion study and observation. In spinning and twisting it is possible, using these devices, to discover slow-running spindles, incorrectly positioned bobbins, faulty yarn, defective and lint-laden travelers, etc.

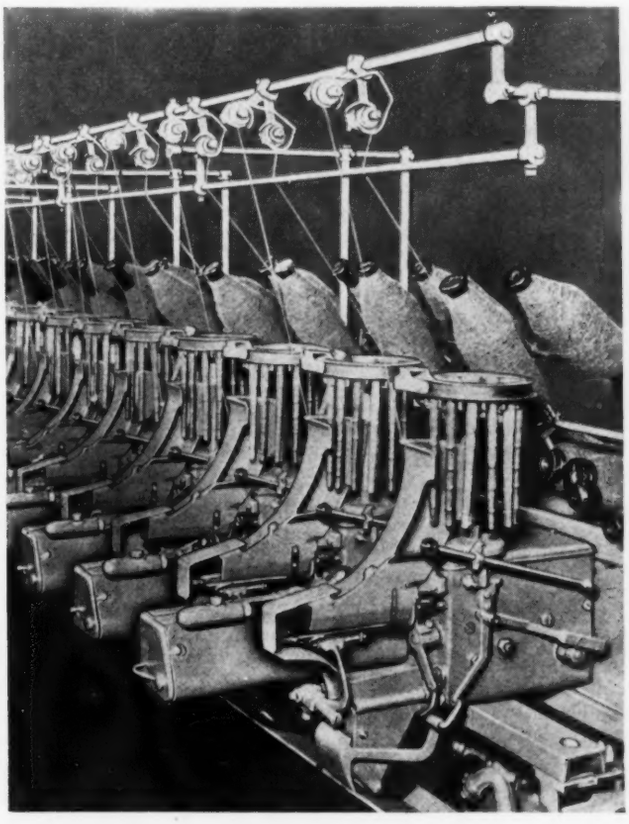
In warping and weaving, automatic winding equipment led the field of 1940 developments. An automatic filling-bobbin winder,[5] which can handle material on roving, spinning, and twister bobbins, and on cones, tubes, and dye-house packages, was introduced late in the year; size of bunch, length of traverse, and bobbins diameter can be readily controlled and adjusted. Another automatic winder[12] which has been in the experimental stage for several years is now being offered to the trade; it consists essentially of a simplified version of one of the company's standard winders, plus an electromechanical automatic doffer; double speed and spindle production are said to be possible.

For unwinding jack spools,[15] a new system aims to make possible speeds equal to those obtained when winding yarns from spools; uniform tensions of all ends and on all jack spools, obviation of paddles and weights, and elimination of overrun are features cited. The company which announced this also brought out an electronic device for counting picks[15] in cloth. Another item of new equipment is a full-width beaming machine[11] in which the drive acts on a new principle, having an adjustable roller said to assure correct yarn pressure at all times; speeds of 50 to 650 yd. per min. are cited.

A recently announced ball bearing for loom treadle rolls[16] is designed to be completely protected from lint and dirt, fully lubricated for long life, and practically to eliminate loom shutdowns for roll replacements. Unnecessary delays in getting looms into production are said to be avoided through use of a streamlined selvage harness[17] which becomes a part of the regular harness and travels with it to the drawing-in room and the loom. The firm which introduced this also announced a new finish for the wooden rails[17] on harness frames; cited are the facts that it is waterproof and gives a smooth, waxlike surface which minimizes accumulations of lint and dust, and reduces cleaning necessary.

Elimination of use of individual drop wires in warp stop motions is the aim of a warp stop motion [18] announced a few months ago; stopping is accomplished electrically, the mechanism being actuated by the heddles, which serve also as drop wires. For a new temple roll[19] made of synthetic material, advantages claimed are that it is long lived, cuts costs, and results in improvements in fabric quality.

Recent loom developments have included increased use of larger-diameter beams; larger and more dense filling packages; cloth rolls holding greatly increased yardages of woven fabric; and stepping up of speeds, accompanied by such improvements in picking and shuttle-control mechanisms as have been required by the new conditions. Numerous patents designed to improve loom mechanisms were issued during the year.



High-speed, automatic filling winding machines made news in 1940; shown here is one of two introduced last year

---

Key to manufacturers of equipment mentioned, as indicated by reference numbers: 1, Davis & Furber Machine Co. 2, E. H. Allen Co. 3, Cavedon Textile Machinery Co. 4, Robert A. Gard. 5, Whitin Machine Works. 6, Hubbard Spool Co. 7, H & B American Machine Co. 8, Fidelity Machine Co. 9, Freeland Spool & Bobbin Corp. 10, Foster Machine Co. 11, Robert Reiner. 12, Universal Winding Co. 13, H. A. Reehling. 14, General Radio Co. 15, Sjostrom Machine Co. 16, New Departure Div., General Motors Sales Corp. 17, Steel Heddle Mfg. Co. 18, Bahan Engineering Co. 19, Hubbard Rubber Co.

Large Headless Packages Set Pace in RAYON and SILK

By C. W. BENDIGO

IT ALMOST GOES WITHOUT SAYING that 1941 will be a busy year for machinery manufacturers, both because of textile orders resulting from good business and from defense demands. At this writing, one manufacturer, for example, is making submarine parts; another is working on an automatic rifle—and all are affected at least indirectly by the Government program. As more munitions are manufactured on a sub-contract basis, it is to be expected that many machinery plants will be extended to capacity, and, if the defense program reaches "all-out" proportions, it is conceivable that some textile machinery orders may have to be deferred. However, barring this, the rayon and silk throwing and weaving divisions face a year of modernization, and new machines developed in the last year plus others now in the experimental stage will find wide adoption.

New developments in the last year have followed two lines—two lines which have been gathering momentum for some time. Larger packages, particularly in throwing, and automatic winding equipment have come at the right time to aid in the increased production which is now necessary.

The 1941 stage has been set by these two developments, but there are several other items which, undoubtedly, will occupy places in the limelight. Fluorescent lighting, with its efficient daylight-like qualities, should be a major feature in the programs of many mills, and the constant fight which is waged against dirt should promote an increasing number of installations of the new polarizing air cleaners.

Announcement by Atlantic Rayon Corp. of the first large headless-package rayon throwing installation culminates years of research, experimenting, and planning by both the machinery manufacturer [1] and the plant. Along with accuracy of machine parts, the development of the large headless packages for voiles and combinations was made possible by using a wide spindle spacing, high speeds, and a flyerless tensioning mechanism. With a recently announced crepe over-end tension device,[2] it appears that rayon throwsters are another step closer to their long-sought goal of headless and magazine-creeled hard-twist packages.

Costly experimenting has been done toward coning or tubing thrown rayon, and a special oval-ended tube [3] holding up to 2 lb. was developed only to have it found that knots resulting from small packages were detrimental in combination yarns and that there were difficulties in over-end tensioning the crepes. The outlook now seems to be more encouraging.

Two recently redesigned twisters, doubler-twister and up-twister, are supplied with closely spaced ball-bearing idlers and with pressed-steel spindle rails; motors and gear ends are fully inclosed; twist and some other gears are interchangeable between the two machines; large mainsprings are used on a belt take-up actuated through the motor drive, and on the doubler-twister a still large spring counteracts the ringrail traverse. On the up-twister [4] customary rigid fingers are replaced by swinging bobbin hangers that have replaceable oilless inserts; the auxiliary traverse is operated through a conical roller and can be disconnected for converting the machine to headless packages; direction of twist can be reversed quickly, especially when a newly developed reversing switch [5] is used. One type of reversing switch [6] permits a slow start to decrease yarn strain.

The doubler-twister [4] utilizes a rotary stop-motion eccentric and has a traversing balloon guide to aid in equalizing ballooning and tension throughout the stroke of the ringrail; individual traverse adjustments are made through the spindle assembly by a locknut device. Endless belts can be used, which is unusual for a doubler-twister.

Ball-bearing spindles are being developed still further to take the increasing loads and speeds. One manufacturer [1] is offering spindles with a rust-resisting finish, and some present spindles are being chrome plated against rust.[6]

A spindle vibrometer,[7] which has proved to be of value in testing the condition of spindles and loads and in determining safe new operating speeds, should assist in the effort to perfect spindle design. The company announcing the tester [7] made numerous improvements in its throwing machinery last year, among which were two designs of spindle brakes, an adjustable centering eye, heavier frames, and extensions for accommodating excessive belt stretch. At the same time, to minimize belt stretching, a cord belt [8] —as contrasted to a fabric one—was mill tested.

In eliminating the need for various styles of travelers, a new type twister ring [9] appears to be advantageous; however, different weight travelers must be used, depending on the yarn and manner of running it.

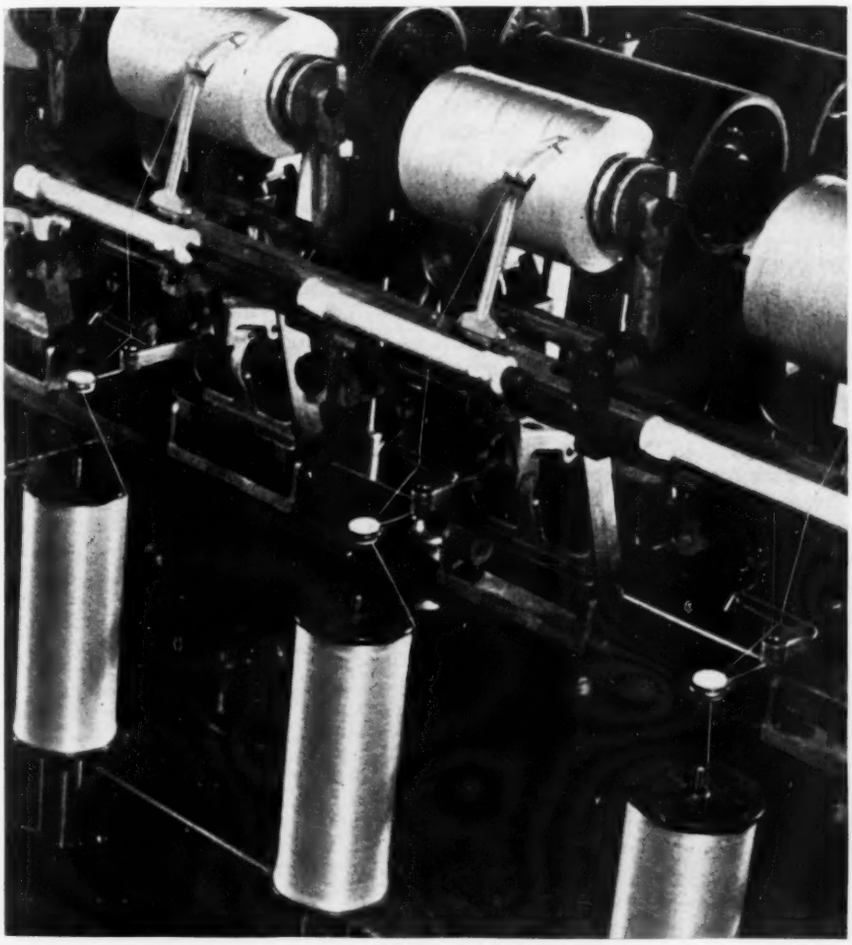
Both of the recently announced automatic filling winders run at higher speeds than the conventional filling winder; operator attention concentrates on keeping the yarn and bobbin magazines filled, on inspection, and on removing the completed packages. One machine [10] has individual units of one spindle each, so that stoppage of one spindle will not affect the others. The other [2] operates in 2-spindle units and utilizes an electrical-mechanical control, which is said greatly to simplify construction and operation.

WARPING AND WEAVING. In high-speed warping, last year saw the introduction of a spindle-drive machine [11] and a direct beam-driven machine [12] as against the regular drum-driven type; on either machine roller pressure on the yarn can be adjusted and is kept at a minimum; the drives are designed to overcome the yarn distortion sometimes caused by the pull of the drum. The new warper heads were developed both for the higher speeds and for use with extremely low-twist, fine-denier rayon.

Two new high-speed warper tensions [12, 13] for fine-denier, low-twist yarns appeared last year. Both are of the interlacing finger type and have compensating arrangements to keep tensions as uniform as possible throughout changes in speed or in initial tension or drag; they were made for attachment to existing creels.

A rheostat speed regulator,[13] an electrical size-box level device,[14] and multiple-cylinder temperature controls [14, 15] were among the recent developments in

rayon slashing. The practicality of regulating the temperatures of several cylinders in a slasher with one control has been indicated by several installations, thus making possible automatic slasher temperature control at a much lower price than heretofore. Indications are that dryness testers which regulate slasher speeds should be used in conjunction with automatic temperature controls, although dryness testers which record but do not regulate speed are having some acceptance.



Large headless-package throwing equipment as shown above is the result of years of experimentation by machinery manufacturer and throwster

Greater widths, heavier constructions, and higher speeds summarize most of the 1940 developments in rayon looms. One installation of single-box looms [16] was of 64-in. looms, possibly in anticipation of rayons entering deeper into the men's wear field. Of course, it may be that the trend toward wider goods, can logically be based on the ability to weave wider cloths at less cost per square yard.

The bobbin-changing box loom [17] in the rayon field underwent a few changes last year, principally in regard to a larger-butt quill for better alignment and to heavier cam and crankshafts and heavier arches and girts; other changes were made in box binders, thread cutter, and dobby head. It still appears that the loom is capable of running at higher speeds than yarns and processing techniques can meet. In shuttle-changing box looms [17] extra bearings and girts have been installed to put the speed closer to that of the bobbin changer.

Single-box rayon looms [16] have been improved to provide for a better division of the shed than heretofore, and beams are more rugged with larger journals; minor improvements have been made in the checking mechanism, battery, and dobby head. Here, too, it appears that the possible speed of the loom has outstripped what the yarns will stand.

Mention should be made of the large-scale production last year of heddles and reeds [6] which are of rustproof metal throughout instead of merely plated. Their advantages are obvious in producing cleaner cloth and in increasing the life of patterns; in scrubbing there is much less danger of harming the finish.

More caution against dirt must be taken with rayons than with any other major textile fiber; consequently, air cleaning or filtering is more the rule than the exception in quality plants. However, until recently all commercial systems were based on the quantity of the dirt removed and not on reduction of the light-weight but damaging soot and smoke blackness. Two devices now on the market [5, 18] eliminate even microscopic particles by means of electrical ionization and polar attraction, and the first installation in a rayon mill was made late last year in a southern plant.

This year will see continued, undoubtedly accelerated, adoption of fluorescent lighting and of material increase in foot-candles of light. Of the many fluorescent lamps offered, the trend is toward the brighter and the color-corrected types.

SEVERAL NEW SYNTHETICS have appeared in the last year, and prominent among these is Vinyon, whose large-scale entrance into many fields, including hosiery, seems to be only a matter of time. New strong rayons and soaked continuous-process rayon also are coming to the fore. Fireproof, insulating, ice-resisting, non rotting, shrinkproof fabrics made from Fiberglas are finding their way almost everywhere, including airplane coverings.

Finer cloths than ever before possible with rayon can now be made from the new strong yarns; regular equipment can be used, and fine deniers are welcomed in many plants that shunned them formerly. Recent initial tests indicate that pretreated continuous-process rayon minimizes variation in crepes and may be expected to increase the use of producer-soaked yarns.

Static, slippage, and conditioning difficulties still hamper those who are processing Nylon, but it is certain that 1941 will see these problems solved, in view of the demand for the yarn.

The search for substitutes for silk and linen in parachutes is still in progress. It is known that experiments have been made using cotton, strong rayons, and Nylon; however, no results or decisions have yet been announced.

Key to names of manufacturers of equipment described: 1, U. S. Textile Machine Co. 2, Universal Winding Co. 3, Foster Machine Co. 4, Atwood Machine Co. 5, Westinghouse Electric & Mfg. Co. 6, Steel Heddle Mfg. Co. 7, Fletcher Works. 8, L. H. Gilmer Co. 9, Herr Mfg. Co. 10, Whitin Machine Works. 11, Cocker Machine & Foundry Co. 12, Robert Reiner. 13, Sipp-Eastwood Corp. 14, Brown Instrument Co. 15, Consolidated Ashcroft Hancock Co. 16, Draper Corp. 17, Crompton & Knowles Loom Works. 18, American Air Filter Co.

Synthetic Yarn Use Preeminent in KNITTING

SYNTHETICS STOLE THE SHOW in 1940 and it looks as if they're going to keep right on doing it in 1941. Of all newly developed machines offered to the knitting trade during last year, more by far related to Nylon than to any other single item. There were preboarding machines, presetting machines, creasing machines, and others. Nylon became available in commercial quantities, but not in such amounts that producers and retailers were able to satisfy consumer demands. Hosiery knitters discovered that, while in the main Nylon acts much like any other yarn, there were numerous problems in its successful fabrication which had to be solved, or else. One such, which will probably come in for increased attention in 1941, is the matter of temperature and humidity control in Nylon knitting mills. Some plants have already installed equipment for maintaining the close control which seems to be a necessity, and others undoubtedly will do so. It is quite probable that 1941 will see added variety in consumer products utilizing Nylon.

Vinyon made its bow to the public gaze, and there was much experimentation to determine its potentialities. As far as consumer use is concerned, first field tackled will be that of knitted gloves. These, in two-bar tricot knit versions, will probably hit the market at about the time this issue reaches the readers. Other products are in the works; for instance, it is altogether possible that Vinyon hosiery may become a commercial reality this year.

On top of that, new and improved types of strong rayons are expected to bid for attention by knitters of hosiery, and possibly underwear, in the near future.

Government business had a hand in upping knitting volume last year, in practically every branch. Orders recently placed, and more which are expected, are already swelling 1941 production. The Army is using light and heavy half-hose, several types of underwear, sweaters of a newly developed type, a new knitted lining cloth for caps, and tricot-knit mosquito netting, to mention a few 1940 procurements.

Style trends in half hose included use of novelty textures and insertion of elastic yarns in the toes to provide perfect fit and do away with bunching and binding; promotion of the heelless sock; and increased use of improved elastic yarns in producing two-way stretch hosiery tops, and for other purposes. Government development work on styling women's cotton hosiery continued, with numerous designs released to manufacturers. Increasing variety in products produced in whole or in part by knitting was also seen, especially in the case of outerwear fabrics. 1941 developments will continue along many of these lines.

Machine developments in 1941 will probably be in the fields of further automatization, and supplying needs created by cutting down of machinery imports. Several new or improved knitting machines were announced during last year. One, for children's hosiery,[1] incorporates a simple device to produce simulated rib elastic tops ornamented by tuck or plating patterns, or combinations of the two; the method is said to allow a maximum length of elastic to be inlaid at each elastic feeding revolution of the machine. Another, for knitting full-length ribbed half hose or ribbed-top self-supporting slack socks, is an automatic true-wrap machine[2] designed to give wide latitude in horizontal colored striping.

A spring-needle machine[3], which had been in experimental form for some time, was first publicly shown in 1940; it features as many as 52 feeds on a 48-in. machine and is intended to produce a complete range from overcoatings to lightweight silks or rayons, in a variety of patterns.

Several circular machines were introduced by one manufacturer[4]. One, for swimsuits and sweaters, features 24 feeds and an equal number of 5¼-in. pattern wheels. A second, for baby shaker styles, is available in all cylinder diameters, in increments of 1 in. A third, for interlock fabrics, also has 24 feeds, and features high production.

Another manufacturer made available equipment for altering existing rib machines for production of true interlock fabrics[5]; it is stated that the changes can be accomplished simply and relatively inexpensively. The warp knitting machine[6] first announced in 1939 was improved in 1940; increased efficiency, more uniform stitches, and improved precision of operation are claimed. For use with warp knitting machines, a high-speed narrow-beam warper[7] operating at speeds up to 600 yd. per min. was announced.

Insertion of French heels in full-fashioned stocking blanks in a continuous operation is the purpose of an improved automatic machine[8] applicable to either regular leggers or single unit machines; simplicity of operation, lower costs, economical production of proportioned stockings, and other savings are cited.

Considerable interest has been shown in a device and system for so adjusting hosiery machines as to make certain of uniform lengths of all leg blanks[9]; increased production, reduced seconds, and lowered silk waste are the advantages it aims to make possible.

AMONG MACHINES developed for various phases of handling hosiery, those for Nylon stand out. Four preboarding machines were presented to the trade. They all incorporate features which make operation semi-automatic, and which keep to a minimum the amount of operator attention required. Similarly, they all represent variations on the central theme of subjecting boarded stockings to steam under pressure. Differences lie in the construction of the boarding units, method of entering these into the steam chambers, etc.

One features two revolving circular boarding units[10] holding 24 stockings each. These have wheels, and ride on tracks extending on either side of the machine. As one unit is pushed into place for steaming the second automatically moves out on the other side and into position for stripping and reboarding. This machine has a steam chamber which lowers over the stockings at the beginning of each cycle and raises again at the end, the stockings remaining vertical throughout.

On another of the machines[11] each of two trucks used holds 30 forms; forms are raised to nearly vertical for loading and stripping, and lowered to horizontal position for entering into the steam chest. As before, the trucks

run on a track extending through the machine.

A third preboarding machine[12] features only a single, front entry to the steam chest. The small door is said to hold heat dissipation to a minimum. As in the others, one battery of forms is stripped and reloaded while the other is being treated. In this machine, also, forms are boarded in approximately vertical position and treated in horizontal position. There are 24 forms per battery.

The fourth preboarder[13], developed by a hosiery manufacturer for his own use and subsequently offered to the trade, has an arrangement which makes it possible to have the forms spread out side by side during boarding, yet folded into a relatively small space during treatment. Forms are in two units, with twelve to the unit.

Elimination of the necessity of preboarding is the aim of a bulk presetting machine[12]; in this stockings are loaded on 48 suspending units, 1 doz. to a unit; the stockings are then hung on racks in a cabinet, and given a controlled water-vapor treatment, followed by hot air drying.

For creasing Nylon hosiery a method and instrument[14] were introduced for aplying heat to the boning operation with an electrically or otherwise heated tool; it is stated that the boning line is easily inserted and long lasting, and that use of the method makes possible numerous other advantages.

A hosiery inspecting machine[15] announced in 1940—for both Nylon and silk hosiery—is designed to make it possible to drop the stockings into dye nets immediately after inspection and obviate any further handling until removal from the nets for boarding.

Several sewing machines of interest to the knit-goods trade were introduced during last year. For high-speed, single-needle lockstitching two different machines were announced by one manufacturer[16]. One, available in types for all fabrics from light to extra-heavy, can be adjusted to insert from 7 to 30 stitches per in., and features force-feed lubrication and full-floating mounting. The second, which is made in models for light- and medium-weight fabrics, features a double rotary thread take-up said to make possible continuous perfect production at 5,000 stitches per min. without risk of overheating or damage to machine parts.

Another manufacturer brought out a new top-roller-feed machine[17] for use on sleeve placket and button-stay operations on shirts and undergarments. The same manufacturer announced a thread ratio control[17] for its line of hosiery seamers. This device is said to give absolute control over the ratio of one thread to another, to measure the thread mechanically, and to insure proper tension.

Several testing devices were introduced, for snag resistance[18,19], abrasion resistance[20], shrinkage[18], etc. An automatic label-applying machine[21] was also announced.

Key to manufacturers of equipment mentioned, as indicated by reference numbers: 1, Hemphill Co. 2, Scott & Williams. 3, W. C. Lipe. 4, Jacquard Knitting Machine Co. 5, Wildman Mfg. Co. 6, Whitin Machine Works. 7, Cocker Machine & Foundry Co. 8, Robert Reiner. 9, Stortz Devices. 10, Proctor & Schwartz. 11, Philadelphia Metal Drying Form Co. 12, Paramount Textile Machinery Co. 13, Dexdale Hosiery Mills. 14, Claumac Co. 15, Edward R. Ammon. 16, Singer Sewing Machine Co. 17, Union Special Machine Co. 18, U. S. Testing Co. 19, National Association of Hosiery Mfrs. 20, Alfred Suter. 21, Textile Machine Works.

Four manufacturers of textile equipment last year developed special machines for the preboarding of Nylon hosiery

New Process Development First Job in FINISHING

THE FIRST JOB of the dyeing and finishing industry in 1941 is to develop the improved fabric finishes wanted by the Army. These, according to Lieut. Col. Vere Painter, of the Quartermaster Corps, include a permanent water-repellent finish for cotton goods that does not affect the strength of the fabric, a method of preventing deterioration of cotton fabrics dyed with sulphur colors, a cheap and practical method of shrink-proofing wools, and a chemical treatment that will make a fabric both wind-resistant and water-repellent without changing its other characteristics. In processing of textiles for consumer use, notable progress can be expected in dyeing and finishing of fabrics made from spun rayon, Nylon, Vinyon, and other synthetic fibers. As a result of research on textile drying, major changes in drying methods and equipment are promised. Installation of special-purpose equipment to permit most efficient use of recently developed chemicals and processes will be important.

Thanks to the tremendous growth since the World War of the American dye and chemical industry, there has been no shortage in the present emergency of dyes or other chemicals needed for processing fabrics for military purposes. In fact, dyers and finishers have encountered comparatively little difficulty in filling both Government and civilian requirements. Growing appreciation on the part of consumers of the advantages of permanent and semi-permanent finishes of various types led to more extensive use of synthetic resins, cation-active compounds, and other chemicals which produce special durable finishes; and this trend undoubtedly will become even stronger in 1941. Serious attention will be given also by both chemical companies and finishers to testing of new finishing agents to make certain that their use on apparel fabrics will not cause dermatitis.

OF THE NEW PROCESSES announced in 1940, one of the more interesting was an electrostatic method of applying cut fibers of cotton, rayon, wool, etc., to a suitable backing, either in patterns or as all-over effects[1]. This process has been adapted to printing of dress goods and production of upholstery and other pile fabrics. In this process, the backing fabric, coated on one or both sides with a suitable adhesive, passes through an electrostatic field; the cut fibers entering the electrostatic field on a conveyor belt are propelled at high speed toward the positive electrode, but are intercepted by the fabric and imbed themselves endwise in the adhesive. First developed in Switzerland and introduced this year in this country is a new chemical process for preventing shrinkage or stretchage of rayon fabrics[2]. Preliminary experiments in preshrinking of wool by a new process using bromine[3] indicate that this method has several advantages over older ones.

In the hosiery dyeing field, the procedure for handling Nylon hosiery is not yet standardized; but generally consists of preboarding or presetting, scouring and dyeing by the two-bath or split-bath method, and application of a finish to increase snag-resistance. For dyeing Nylon, selected acetate and acid dyes are commonly employed; for blacks, logwood appears to have definite possibilities. A pigment dyeing method[5] for applying vat colors to cotton raw stock or yarn in circulating types of apparatus is designed to eliminate cross-overs and promote level dyeing.

MOST RADICAL OF NEW MACHINES introduced in the last twelve months were the several different types for preboarding or presetting Nylon hosiery; these are discussed in the preceding article on knitting developments. Other new machinery was, for the most part, designed to give increased production and/or to improve quality of work. Thus, a new printing machine[6] permits printing speeds as high as 300 yd. per min. and provides automatic control of tension of fabric entering the machine, accurate tracking of the goods, and better registration. Another printing machine[7] provides printing speeds approximately double those obtainable with conventional equipment; combined with this machine is a tenter frame automatically controlled by photo-electric beams.

Scouring of woolens at speeds of 27 to 40 yd. per min. with marked savings in water and soap are the features of a continuous washer[8] which is unique in that it can be used as a continuous range or as seven or less individual cloth washers which can be used at one time with seven different loads. Other cloth washers include one specially designed to prevent bagging and wrinkles in woolen fabrics[9]; and one constructed with a laminated plastic top[10]. The continuous dry-cleaning machine for woolens and worsteds[11] described in the October, 1939, issue of TEXTILE WORLD was made commercially available last year. Also new is a four-roll fulling mill[11] which handles at the same time four different fabrics with different fulling requirements. Uniform singeing with a cloth speed of 75 yd. per min. is the chief advantage cited for a four-burner singeing machine for worsted fabrics[12].

An unusual jig type scouring, bleaching, and dyeing machine[13] consists essentially of two separate boxes, with a pair of controlled-pressure squeeze rollers placed over the dividing partition; cloth is wound on beams that are placed within the boxes in such a position that the roll of goods can be batched totally submerged, semi-submerged, or completely out of the liquor; squeeze rollers pull the cloth from box to box with controlled tension at a constant speed of 100 yd. per min. An improved tensionless, constant-speed jig[14] having 100% greater yardage capacity than previous models carries as much as 4,000 yd. of cloth. For dyeing knit goods, a completely inclosed type of machine[15] was introduced which has a number of accessories and special features to permit use of vat, naphthol, and developed colors. Other new dyeing equipment includes a machine for random dyeing of yarn[4] in conjunction with winding, spooling, or similar operations; a stainless steel rayon cake dyeing machine[16] designed to give level dyeings without impairing the quality of the rayon; and a reel-type dye beck[10] with fully curved sides to eliminate flexing of the sides when the tub is being filled or emptied.

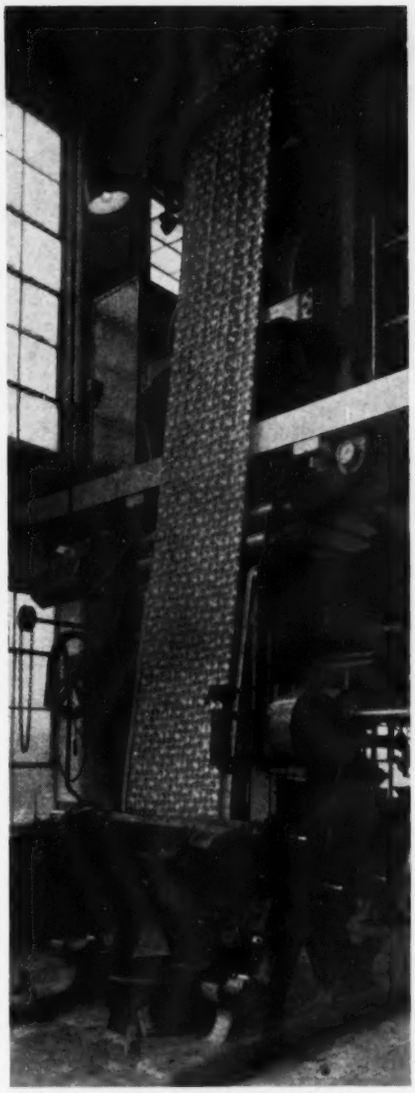
Features of a new mercerizing padder[7] include welded steel tank, compound lever and weight pressure, two sets of expanders, and automatic electric guider at entering end. Scroll rolls in a new light scutcher[17] are of phosphor-

bronze tubing welded to bronze heads and with no soldered or riveted strips which might come loose with resulting injury to the cloth or the operator. Formation of objectionable cross-marks, often visible in plain goods after tigering, is said to be overcome with a new wet tiger for pile fabrics[18]. A continuous boil-off machine[19] capable of handling a great variety of fabrics is designed to avoid break marks, stick marks, wrinkles and similar defects.

With a photo-electrically controlled cloth-inspection machine[20] introduced last year, the operator starts and stops the machine merely by interrupting with knee or dress a conveniently located light beam. Specially designed for handling elastic web and other fabrics with a longitudinal stretch is a measuring and winding machine[21] designed to record accurate measurements and wind a straight roll on paper tubes with no stretch. Terry towels are folded, counted, and automatically stacked in lots with a new folder[22] giving a production of 1,500 to 2,000 doz. per 8 hr. For guiding cloth into mangles, tenters, dryers, calenders, and other machines, a mechanical guider[23] originally developed in France is now being made in this country. To aid production of straight seams with selvage edges in alignment, a gray goods carrier[24] has been introduced for use with butted-seam sewing machines.

THE CHEMICAL LIST continued to expand in 1940, with new detergents and synthetic resins accounting for a high percentage of the additions. Among the new detergents are a condensation product of protein derivatives and fatty acids,[25] which also acts as a retarding agent in bleaching with chlorine or peroxide; a series of sulphated boro amide esters of alkyl compounds[26] which are characterized by powerful detergent and dispersing action under acid, neutral, or alkaline conditions; a sulphonation product of a high molecular condensate of the aliphatic series[27] recommended for various scouring operations; a detergent and semi-bleaching agent[28] which, when used for scouring wool, frequently eliminates need for subsequent bleaching; a concentrated detergent[29, 30] said to be almost equally efficient in hard and soft water; a scouring agent[31] which is effective without excessive lathering and which is stable to lime salts; a soap substitute[32] for use in boiling off or scouring silk, rayon, cotton, and wool; a low-cost detergent[33] with high sudsing action; a degumming powder for silk hosiery[34]; and a bleaching and cleaning compound[37] which reduces and dissolves iron stains.

Included among new synthetic resins



Trend toward higher speeds is exemplified by two new printing machines introduced last year; the one illustrated operates at cloth speeds as high as 300 yd. per min.

are an emulsion blend of resins[5] for production of low-cost finishes on cotton and rayon piece goods; a modified acrylate resin[35] with the elastic qualities of rubber latex; three resins of the alkyd or modified alkyd type[36] for use in finishing all-rayon and part-rayon fabrics; a series of water-soluble polyvinyl resins[20] particularly useful for coating textiles; a permanent resin finish[37] combining softening qualities with bodying effect; an alcoholic resin solution[38] producing clear transparent films which are practically non-flammable when dry; and a resin compound used as a slip-proof finish[32].

Other finishing agents include a permanent weighting compound[39] which adds 15 to 20% weight to cotton, rayon, wool, and other fabrics; a water-soluble cellulose ether[40] believed to have a number of applications in textile finishing; several synthetic waxes[39] developed to take the place of natural waxes; a paraffin wax emulsifier[41] which produces stabilized emulsions spontaneously without rapid agitation; an absorbency-increasing agent[42] for use on cotton, rayon, or other cellulose fibers; a softener[30] with high lubrication properties and essentially complete rinsability from textile fibers; a lauryl alcohol sulphate emulsifying agent[30]; a combined wetting and finishing agent[43] for use in conjunction with the Sanforizing process; a compound for impregnating fabrics to render them electrically conductive[44]; and new finishes for Nylon hosiery.[34]

Among miscellaneous chemicals are new conditioning and lubricating oils for Nylon hosiery yarn[36]; a lubricant for treatment of cuprammonium and other synthetic yarns for full-fashioned knitting[41]; two conditioning agents for cotton yarn[45, 46]; a line of oil soluble tints for identifying staple fibers[47]; a silk soaking compound[30] said to reduce soaking time to 30 min. regardless of type of equipment employed; two new softeners for use in sizing spun rayon yarn[41]; a supersulphated compound used as a dyeing assistant and penetrant[48]; two mold and mildew preventatives[49, 50]; and an organic solvent[51] which dissolves vinyl resins, oils, fats, gums, basic dyes, etc.

Key to manufacturers of equipment and chemicals mentioned in text: 1, Behr-Manning Corp. and Arnold Print Works. 2, Cluett Peabody & Co. 3, Warner Chemical Co. 4, Roanoke (Va.) Mills, Inc. 5, Calco Chemical Division American Cyanamid Co. 6, Rice, Barton & Fales. 7, Textile Finishing Machinery Co. 8, James Hunter Machine Co. 9, Mawaco Machine Co. 10, Rodney Hunt Machine Co. 11, Riggs & Lombard. 12, Birch Bros. 13, Duo Dyeing Machine Co. 14, Van Vlaanderen Machine Co. 15, Grand Rapids Textile Machine Co. 16, American Obermaier Corp. 17, H. W. Butterworth & Sons Co. 18, General Machine Co. 19, Hinnekins Machine Co. 20, Curtis & Marble Machine Co. 21, Hermas Machine Co. 22, Rochester Engineering & Centrifugal Div. American Laundry Machinery Co. 23, Mount Hope Finishing Co. 24, Merrow Machine Co. 25, Chemical Marketing Co. 26, Onyx Oil & Chemical Co. 27, Michael Export Co. 28, American Textile Chemical Co. 29, Procter & Gamble. 30, E. I. du Pont de Nemours & Co. 31, General Dyestuff Corp. 32, Warwick Chemical Co. 33, E. F. Houghton & Co. 34, Laurel Soap Mfg. Co. 35, Rohm & Haas Co. 36, Quaker Chemical Products Co. 37, Arnold Hoffman & Co. 38, Glyco Products Co. 39, Lyonset Ltd. 40, Dow Chemical Co. 41, National Oil Products Co. 42, Sorbtex Foundation. 43, Alrose Chemical Co. 44, Acheson Colloids Corp. 45, Burkart-Schier Chemical Co. 46, Borne Scrymser Co. 47, United States Testing Co. 48, Napthole, Inc. 49, Ciba Co. 50, Western Reserve Chemical Co. 51, Carbide & Carbon Chemicals Corp.

Preventing Shut-Downs No. 1 Task in MILL ENGINEERING

ASK THE ENGINEER of the power plant and the maintenance engineer of practically any textile mill this question: "What problem is giving you the most concern today?"

The answer would be: "Overnight all the power units, boilers and turbines, and all the manufacturing and processing equipment have been forced into 24-hr. operation—often six days per week—without warning and without adequate preparation. Where there were always spare units and spare machines available for use when others had to shut down for inspection or repairs, now there are none. Power units are being forced to capacities and even to overloads. Equipment that would ordinarily be shut down in order to permit needed minor repairs is kept in operation. But no machinery in the mill can be permitted to stop; production must not be curtailed. The greatest problem of the power plant engineer is to supply all the process steam and all the power needed in the mill, regardless of difficulties. The greatest problem of the maintenance engineer is to keep active machinery running and put into proper condition machinery which has been standing idle. To do this, he must work days, nights, and week-ends. Sooner or later power units and productive machines will inevitably have to be shut down for major and costly repairs; but these shutdowns must be postponed as long as possible."

Another matter that is giving the power plant engineer much concern is the possibility of losing some of his skilled operators by draft or by greater inducements elsewhere. The modern power plant demands highly trained men—men who can act quickly and correctly in emergencies. And, with the greatly increased operation of all classes of industrial plants, such men are becoming difficult to obtain.

In the power plant the aim has always been to operate at maximum efficiency. With all units being operated at a maximum capacity, and even with overloads, efficiencies must necessarily be lower and costs therefore higher. Hence, the power plant and maintenance engineers must make sure that there is no excessive waste of steam, power, water, compressed air, or supplies. The power plant engineer may find that he cannot obtain repair parts and necessary new equipment so promptly as before. There may not be any serious shortage of coal or oil, but prices may be higher. In the case of coal-burning plants, lower-grade fuels may have to be used, as was true at the time of the World War. Oil burning plants may change over to coal-burning and the plant that is equipped to burn either is indeed fortunate.

Collecting of fly ash and elimination of stack discharge in plants using pulverized coal will continue to demand increasing attention. Some of the latest types of stokers are guaranteed to discharge a lesser amount of ash particles from the stack, even without any ash-collecting apparatus, than will an equivalent pulverized-coal-burning plant that has ash-collecting equipment. Further improvements and refinements can be expected in the construction and operation of automatic stokers, and a more determined effort on the part of the manufacturers to promote their more extensive use in the textile industry. Electric welding will find increasing use in the fabrication of apparatus that heretofore has been made of cast-iron or cast-steel. Steam turbine diaphragms and casings are thus built up and the welded joints are invisible. The desire now is to have every thing streamlined, and welding aids greatly in bringing this about; losses from defective castings are eliminated and construction is more rapid. Synthetic rubber for sheet packing and valve diaphragms will find wider application.

Lighting of weave rooms is one of the many textile-mill applications for fluorescent lamps of various types

POWER PLANT EQUIPMENT. In 1940 considerable was done to bring about improved operation in the power house and in the mill, and engineers, naturally, will make the fullest possible use of these developments. Thus, with high-pressure, high-temperature boilers burning pulverized coal, the matter of slag formation, slag removal, and slag prevention has become one of prime importance. In one type of modern boiler[1], since there are no banks of tubes in the first pass to which the ash in a fluid or semi-fluid state can adhere, the ash is changed to a dry granular form and is collected in the slag hopper at the bottom of the pass; in the second pass the dry ash is swept clear of the tubes by the downward flow of the gases and into the dry ash hopper at the bottom; this results in cleaner super-heater tubes and a more uniform temperature throughout the boiler.

In another type of boiler [2] the steam-generating furnace is separate from the superheating furnace, the superheater being heated by both radiation and convection; gases from both furnaces unite before passing through the economizer and air heater; this construction minimizes slag formation on both boiler and superheater tubes, and gives a greater water-wall surface and a more uniform exit-steam temperature over the load range of the boiler.

More efficient slag removal has been

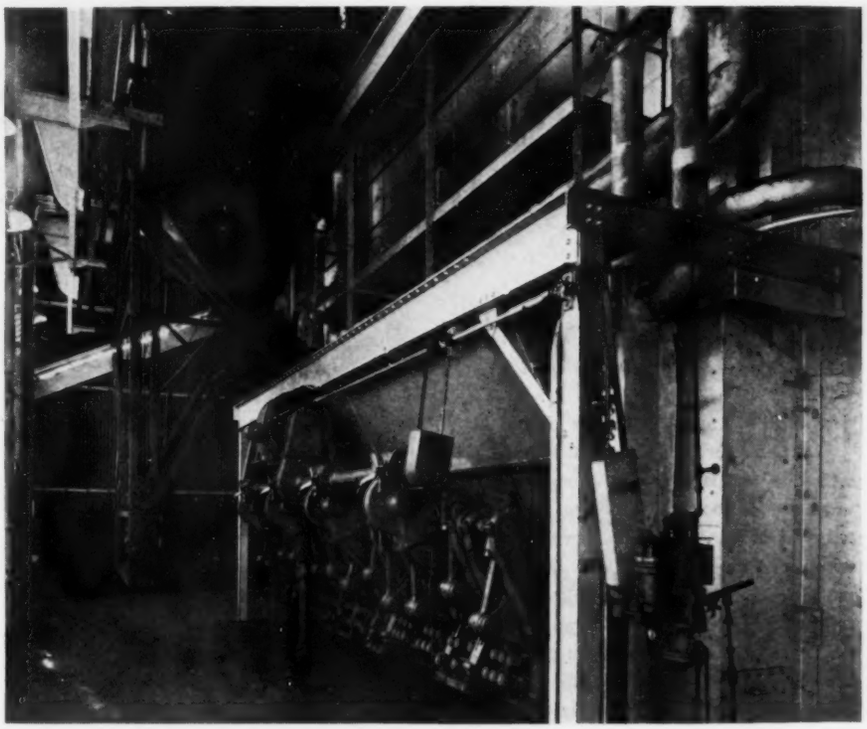
accomplished by the development of several types of retracting soot blowers [3] in which the soot-blowing elements, normally withdrawn from the furnace space when not in use, are projected into this space automatically when the blower is operated.

A noteworthy new development in better boiler-setting design is the steel-clad insulated setting [4] in which the entire setting is inclosed in a covering made up of insulated metal sheets united by flanged joints; air infiltration is prevented, radiation losses are greatly reduced, setting maintenance is very low, and resistance to internal puffs and minor furnace explosions is increased.

High-pressure, high-steam-temperature boilers—particularly the topping units—have also made it necessary to pay greater attention to feedwater treatment problems. Silica has become Power Plant Enemy No. 1 in feedwater treatment. It is the cause of the formation of most troublesome type of boiler scale—sodium-aluminum-silicate. This acts as a catalyst in the presence of caustic soda to cause embrittlement. If it is present in a boiler-water, and carry-over occurs, a hard silica scale will be deposited on steam turbine blades. This scale is difficult to remove, as it is practically insoluble and must be removed by mechanical means.

Newer methods of silica removal [5, 6, 7, 8] involve the use of magnesium oxides and of phosphates which are introduced into the water as pretreatments. Insoluble flocks or sludges are formed, which remove the silica by adsorption. At the same time the total solids content of the water is not increased; in fact, it is reduced. The efficiency of the magnesium oxide treatments increases with the temperature and with the recirculation of the previously formed sludges.

MOTORS. Numerous improvements and refinements have been made in the manufacture of induction motors. For example, one new general-purpose motor of this type [9] is streamlined in appearance, has a cast-iron box type frame, cast-aluminum rotor, and the ball-bearings are fitted with a pressure relief greasing system. For hosiery manufacturers there has been introduced an improved 5-hp., 1680-r.p.m., adjustable-speed a.-c. motor [9] with dynamic braking equipment and a specially designed brush-shifting mechanism. Operators of jig-dyeing machines have always been troubled by the uneven tension as the cloth was repeatedly wound from one roll to the other and reverse. This trouble has now been eliminated by the use of a wound-rotor motor mounted on each roll; while one motor operates the roll on which the cloth is being wound, the motor on the unwinding roll provides dynamic braking.



Automatic stokers are coming into more extensive use in textile mills

Fluorescent lighting has made tremendous gains in textile mills during the last year. Not only is the fluorescent lamp suitable for general use both in the white and daylight types, but it is particularly desirable for spot illumination, such as at inspecting perches, mending tables, at folders where cloth is coming off the machines, and in color-matching booths. With fluorescent lamps, much work that previously could be carried on only in daylight hours can now be done at night. Accurate records over periods of months have proved that among the benefits derived from the use of this type of lighting are a decrease in fabric defects, with consequent lessening of mending costs; increased production; lower costs of lighting; and increased earnings for operatives on piece work.

Several textiles mills have made installations of electrostatic air-cleaning devices which prevent contamination of goods in process by removing all smoke, soot, dust, etc. from air furnished to various machines or departments. One device of this type [10] collects the air-borne particles electrically on a filter curtain and automatically washes the collected particles from the curtain, by passing it continuously through an oil bath. With another device,[11] the dust becomes ionized by means of electrical charges and is attracted to a series of grids, each charged with a high-voltage current.

Many mills have found it advantageous to insert felt cushion pads [12] between the floor and the feet of looms in order to lessen the vibration that is caused by the reciprocation of the lay and the throw of the picker sticks; the pads are cemented to the wood floor and then the feet of the loom are cemented to the top side of the cushion pads, a special type of cement being used for this purpose; no lag screws or bolts are used to fasten the loom to the floor.

To reduce breakage of loom castings, one loom company [13] has developed a new metal to be used for loom parts, such as pick-cams, hubs, pick-shafts, and other castings that are subject to shock; this new metal is 23% stronger and 32% more resilient than gray iron heretofore used. In heating units for textile dryers of various types, old-style pipe coils are being replaced by the newer fin type box units.

Key to manufacturers of equipment mentioned in articles as indicated by reference numbers in text: 1, Babcock & Wilcox Co. 2, Foster-Wheeler Corp. 3, Diamond Power Specialty Co. 4, Riley Stoker Corp. 5, Permutit Co. 6, Allis-Chalmers Mfg. Co. 7, W. H. & L. D. Betz. 8, Hall Laboratories. 9, General Electric Co. 10, American Air Filter Co. 11, Westinghouse Electric & Mfg. Co. 12, Felters Co. 13, Draper Corp.

A Realistic Approach Essential to LABOR RELATIONS

By HAROLD F. BROWNE,
Director, Management Research Division, National Industrial Conference Board

With all industry as his arena, Mr. Browne, the author of this article, views the problem of industrial relations in broader perspective than can any man identified with one industry or one company. This is the first of three consecutive articles. In urging a realistic approach to the subject, Mr. Browne makes it clear that there exists today a certain new set of facts—and that industry would be wise to *face* those facts, whether it likes them or not. That's sound advice, in any man's language.

We recommend particularly careful reading of the section on the need for a *follow-through* in a company's industrial-relations policy. As he states, the over-all policy may be excellent, but the expression of it which finally reaches the man at the machine may be something quite else again. Over and over again, in our attendance at NLRB hearings, we encountered that hard, cold fact. It's probably the main problem to be solved by each individual company.—*Editor.*

THE NEED FOR A REALISTIC ATTITUDE toward problems of all kinds has of late been driven home with unpleasant forcefulness. Wishful thinking and reliance on any automatic readjustment of conditions to what formerly were regarded as normal have had to be replaced by a willingness to face facts and to be guided by them. Events have moved rapidly in domestic as well as international affairs and he who would keep pace with them must discount history and precedent and concentrate on present reality. The field of labor relations is one in which this is particularly true.

The employee of 1941 is certainly not the employee of 1931. He may be the same person ten years older, but he looks at his job and at his economic position from quite a different viewpoint. And in many cases he is a young employee with no personal knowledge of employment conditions as far back as 1931. His industrial experience may reach back only a few months or years and therefore traditions in his industry mean nothing to him.

Considering industry in a broad sense —manufacturing, public utilities, transportation—the chances in 1931 that an industrial wage earner was a union member were about one in four. In 1941 the chances are about one in two.

In 1931 it had not occurred to the employee that it should be made a matter of public policy by the Federal Government to promote union membership. In 1941 it is taken for granted that union organizing campaigns have the blessing of Government officials and boards and that legislation concerning collective bargaining will be interpreted and administered with the utmost sympathy for union objectives.

In 1931 the worker regarded his employer as the one to establish the working conditions in the plant or mill. In 1941 he knows that the Government establishes directly certain basic working conditions and is able to influence others as well through an ever increasing volume of administrative interpretations and the fear of more restrictive regulation.

In 1931, during the depths of the great industrial depression, the average earnings per hour of industrial wage earners who were lucky enough to be employed were about 56¢. At the beginning of 1941 they are about 75¢.

SO GREAT A TRANSFORMATION in the fundamental conditions surrounding employment could not take place without profoundly affecting the worker's attitude toward his job. This fact must be realized and be taken into account. To ignore it and try to believe that we have merely been passing through a hysterical and chaotic period that sooner or later would run its course and that if we are patient former conditions will in due time be reestablished, is to live in a dream world from which there will sooner or later be a rude awakening. If all the labor legislation of the last eight years were repealed, if all the administrative boards and agencies set up to carry out the purposes of these laws were dismissed and all their rulings and decisions rendered null and void, conditions that obtained ten years ago still could not be reestablished because the thought and reasoning of labor and the public have been directed along new channels.

The whole question of labor organization is one to which many managements find it difficult to adjust because it is so foreign to their conception of a natural and cordial relationship between an employer and his employees. Unionization of a plant or mill appears to them either as a revolution on the part of their employees or as a result of a campaign of misrepresentation and coercion by union organizers. It may result from either or both, or from neither. It may grow out of any of a number of influences or desires and not reflect in any way on the past handling of industrial relations in a company.

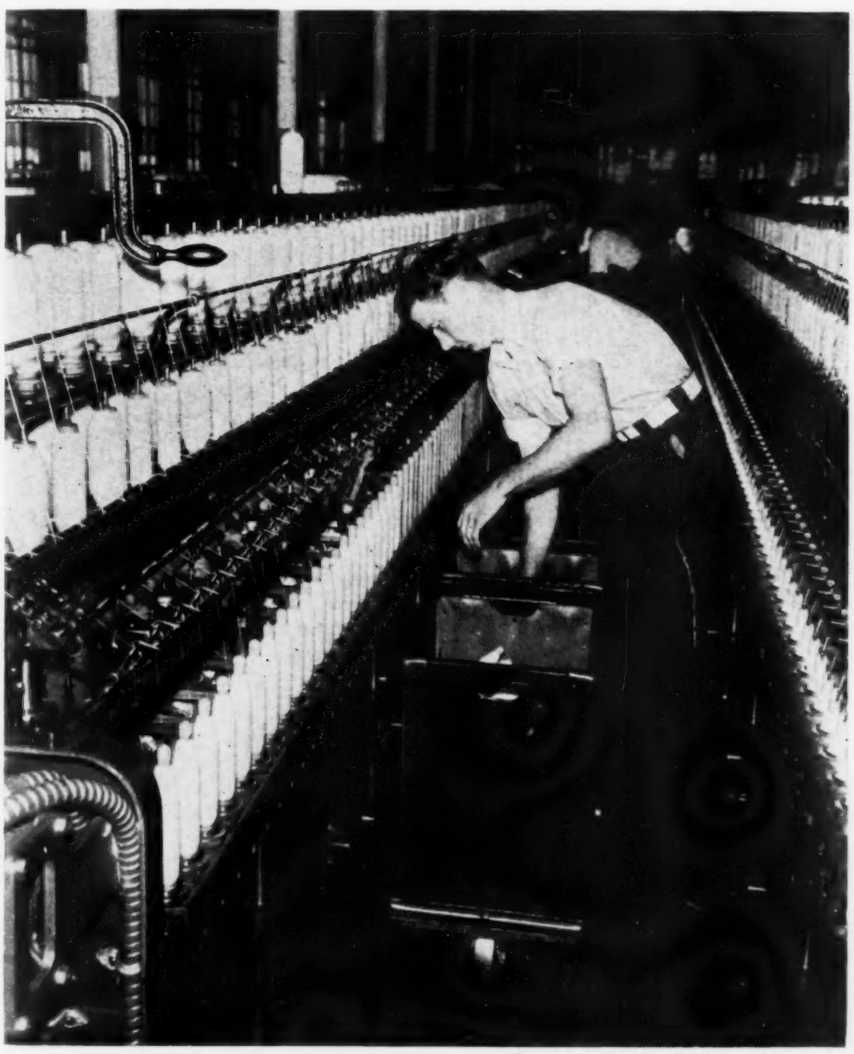
However, the fact that labor organization has made so much headway, often in plants where the management was known to be committed to a policy of utmost fairness and consideration for employees, should lead every management to analyze the situation and find whether its own industrial relations are in reality what it believes them to be. Making full allowance for pressure tactics of organizers, up to and including actual coercion in some cases, there must have been some reasons that made organization seem reasonable or attractive to at least part of the employees. Experience in recent years has repeatedly brought out the unfortunate fact that labor policy, as conceived by the responsible executives of a company, and supposedly the same policy as rank-and-file employees came in contact with it, have borne little resemblance to each other.

MANY DISASTROUS LABOR DISPUTES in recent years have been due to the lack of follow-through in industrial relations policy. A company management formulated a general policy that may have been excellent in every way, but it remained only an abstract policy—ambitious but ineffective. It was assumed that it was carried out as intended when particular situations arose,

but no attempt was made to check on this and see if it was a fact. Either through ignorance, or for personal reasons, quite different interpretations from those intended were sometimes made by subordinate executives and foremen, so that rank-and-file employees, confronted with rulings that seemed arbitrary and unfair, became resentful and bided their time till they could get back at a management that was often quite ignorant of the sins charged against it.

Quite a different attitude toward the importance of labor policy is in effect in a large company that operates many plants in which both individual and union dealings are carried on. An executive in charge of personnel has his headquarters at the main office of the company and members of his staff are located in each of the plants. Here they report directly to the plant manager and assist him in carrying out in practice the company's basic industrial relations policy. Periodically these plant personnel men are called in to the company headquarters for a general conference at which they discuss their problems, compare experience and make suggestions to the operating men.

I recently had the privilege of sitting in at one of these conferences. The questions raised and the decisions reached displayed an eminently realistic but broad-minded acceptance of responsibility to help smooth out the rough spots in the human relations between management and employees. What was most impressive, however, was the fact that the vice-president in charge of manufacturing considered it well worth his while to remain throughout the day at this conference and the president joined his personnel men at lunch and again at dinner to demonstrate his keen interest in their work and to re-state the broad policy that he insisted should govern employer-employee relations throughout the company. The highest operating officers of this large company believed it to be essential that they keep in close touch with industrial relations administration as actually practiced in their several plants. The principle applies with equal force to all companies regardless of size.



Courtesy Southern Combed Yarn Spinners Assn.

The "man at the machine," who must get a clear interpretation of his company's industrial-relations policy, if that policy is to be a constructive force

GREATEST PROGRESS toward better industrial relations has been made by companies that have refused to be diverted, by the organization of their employees, from their intention to create the best possible working relationship. If their employees wished to organize it was their legal right to do so, but these managements have not considered themselves released from their responsibility to their employees. They have bargained collectively with union representatives on questions that were raised, but this somewhat formal procedure has not displaced the informal and friendly dealings that had existed before there was any question of unionization. Always they have kept before them the larger objective of a relationship that would stand up under the many strains that might be placed upon it and that would assure, in so far as it can be assured, smooth and continuous operation.

This is in marked contrast to the attitude of executives who, when their plants have been organized, have, in effect, said to their employees: "If you want to be represented by a union, that is your affair, but from now on the management will adhere literally to the terms of the union contract. You will get what it specifies—no less and no more." The obvious effect of such an attitude is to convince employees that in the future they must rely entirely on the union for protection and for progress. The reason for such an attitude is quite understandable, but does it represent really good judgment?

In addition to all the normal difficulties that surround labor relations, industrial management is now confronted with an emergency situation created by the national defense program. Demands for higher wages and other concessions will probably multiply as conditions develop that seem to justify them. Labor relations are already recognized as one of the greatest uncertainties in the ability of the United States to accomplish the vast program it has undertaken. The maintenance of harmonious industrial relations will be a vital factor in meeting defense needs, and executives who determine labor policy will need wisdom and judgment as they have never needed them before.

Key Textile-Mill Figures in Defense Are OVERSEER and OPERATIVE

By WILLIAM G. ASHMORE, *Southern Editor, TEXTILE WORLD*

2 The previous article, emphasizing the responsibility of management in labor relations, leads appropriately to this second of a group of three articles. This one treats of the relationship between overseer and operative. In the editorial note accompanying the previous article, we emphasized the importance of proper follow-through in a company's industrial-relations policy right on to the man at the machine. Certainly, the overseer is a vital step in this chain. The importance of the subject of this article is therefore obvious.—*Editor.*

AMID THE MANY UNCERTAINTIES of 1941 there is one thing which management can be sure of: The overseer and operative are key figures in the defense program and are as important today as the non-com and private may be tomorrow. With the United States acting as "the arsenal for democracy," we are fighting a war in our manufacturing plants whether they produce guns, airplanes or textiles. Our soldiers today are manning productive machines instead of guns.

Responsibilities of both the overseer and the operative have been multiplied many times by the crisis. This is particularly true of the overseer who, like a top sergeant in time of war, must get the best out of his men and at the same time look out for their welfare so that they will not be tempted to "desert" the mill for work which temporarily might appear to be more attractive.

What can the overseer do to meet present and future problems brought on by the emergency? This is a difficult question, but there is a definite approach to the solution which has three main points:

1. The overseer should take stock of his own ability and that of his operating force.

2. An effort should be made to anticipate developments of the coming year or two which represent immediate problems.

3. After getting his immediate job lined up, the overseer should do some long-range planning designed to cover needs of the next several years.

Probably the most difficult part of this plan is self-analysis by the overseer since most of us shrink from recognizing our own faults. But this is not an impossible task if a person will honestly face facts and approach the matter systematically. Factors to be considered would include personality, leadership, knowledge of methods, mechanical skill, ability to observe accurately, resourcefulness, executive ability, physical energy or pep, attitude toward job, ability to cooperate with superiors, confidence in self, etc. It usually is helpful to list these points in column form with space to grade good, fair or poor. A visual picture of this kind should aid the overseer in bringing himself up to par on those points where he is weak or has gotten careless.

After analyzing his own ability, the overseer next should check up on his operating force to see if he is getting the best out of the group and out of the individual. One of the best barometers of operating efficiency is labor turnover if proper records are available. Many of the larger mills now have personnel departments which keep these data on record, and the overseer who does not make use of such information to check up on his own department and to compare it with other departments is missing a bet.

Records of labor turnover do not mean anything, it should be realized, unless properly kept and interpreted. For example, the mere fact that a certain department had 20% labor turnover during the last year means very little in itself, but if the record shows also that other departments had a much smaller turnover and that three-fourths of the separations were due to discharges of workers who could not make production on certain machines, it is obvious that something is wrong with the work load or machines in question. On the other hand, the record might show that the majority of separations were caused by workers who quit to work on Government projects—presenting an entirely different problem. Reasons for separations over a period of time often fall into a pattern, indicating a weakness of management which usually can be rectified without too much trouble if caught in time.

An estimate of normal labor turnover for the coming year should be made after studying the records of the last two or three years. Then, the overseer should try to anticipate *additional* turnover which might be caused by the defense program and/or generally improved business conditions.

The draft itself has not yet presented a serious problem from the standpoint of taking labor out of the mill, but if the present trend continues toward a large standing army and a large number of trained reserves, the draft is bound to be felt in the future. However, a real labor shortage is being felt by those mills located in the vicinity of army construction projects. They are losing many skilled workers with mechanical ability or are being forced to pay wages out of line with competitive mills in other localities.

The drain on textile labor supply caused by the defense program and allied factors is serious, but it is not hopeless. The overseer can meet it at least in part by deciding which workers he is likely to lose and then taking steps either to retain them or to replace them. Since all changes of personnel are expensive, every incentive should be given the operative to stick to his job. These incentives include adequate wages, good-running work, comfortable working conditions, fair treatment, good living quarters (if the mill maintains a village), and—most important of all—personal words of encouragement, when deserved.

DESPITE EVERYTHING the overseer can do, the mill is bound to lose a certain percentage of its help during the next year or two. With this knowledge in mind the overseer should lose no time in casting about for new sources of labor. If there are spare hands in the village or in the neighborhood the overseer might save himself later grief by finding regular work for some of them to keep them from drifting off into other occupations. Another source of emer-

gency labor is in the mill itself where there may be employees capable of handling more than one kind of a job. These trained workers could be shifted into more skilled jobs when vacancies occur and their places filled with less highly trained operatives. As a matter of fact, the mill would not go wrong in making a survey of its entire working force so that inter-departmental shifts of personnel could be made on occasions.

Training classes always are one answer to a shortage of trained personnel, and, if such classes are not already in operation, the overseer should see that they are started up in his own department to train key personnel, such as fixers. Some mills have discontinued training classes because of restrictions of the wage-hour law, but under present conditions an overseer might find it worthwhile to insist that the mill pay learner minimums rather than depend on floating help which is going to be scarcer in the future. If the mill cannot afford this increased cost, the next best bet is for the overseer to organize Saturday classes and set up some non-productive machinery for training purposes. The State directors of vocational education are familiar with the learner problem, and often can be of real assistance if a mill will call on them.

The fact that the textile industry employs a great many women is fortunate in some respects as these workers are not apt to be attracted by outside construction jobs and the like. In view of this situation an overseer might find it worth-while to select certain of his more promising female employees and train them to take over vacancies which might occur later. It is true that many jobs in the mill are not considered "woman's work" but in times of emergency many precedents are broken. In South American countries where there is a shortage of male labor, it is not uncommon to see women in textile mills acting as loom-fixers, slasher-hands and in some instances as "foremen." undoubtedly this same situation exists in many European mills today where the men largely have been called into the army or into the heavy industries to work on military equipment.

More women in textile mill jobs is a logical development if war-time conditions draw men into other fields. The overseer should watch trends in the drain of textile labor supply affecting the locality of his mill

An important function of the overseer under present conditions is to interpret intelligently the policies of the management. Beyond this, he can perform a real service to the employees by keeping abreast of outside affairs and explaining them to operatives who do not have the time or inclination to go into them thoroughly. For example, as soon as plans for the draft were announced last year numerous young men in the textile industry and elsewhere decided to throw up their jobs and go into the army "because the draft is going to get us anyway." They did not stop to find out that the draft in its present stage would affect relatively few individuals in any given community. There still are many persons who do not know how the draft works any more than they understand the social-security laws.

Another service along this same line which the overseer can render is to point out the importance of remaining on the job where defense orders are being filled and to make the best quality goods possible for Government use.

An extra duty of the overseer for duration of the emergency should be to keep an eye out for sabotage and subversive activities even though there is likely to be relatively little of this in the textile industry.

SO MUCH for the immediate problems of the overseer. From a long-range viewpoint there is an almost unlimited number of factors which can enter into his planning.

A few of these factors are hiring and firing, ability rating, fitting workers into the proper jobs, securing teamwork, inciting ambition, reducing accident hazards, maintaining discipline, maintaining cleanliness, handling complaints, settling grievances, representing workers at management conferences, etc.

It is easy to see that the overseer's job is difficult enough under present conditions and that it is going to become increasingly so in the future. Probably, before the year is out many an overseer is going to long for the good old days when life was simpler, as typified by a list of rules posted in the 1880s by a Chicago department store. Major points, which appeared to settle satisfactorily all employer-employee problems of that day, were as follows:

"1. The employee who is in the habit of smoking Spanish cigars, being shaved at the barber's, going to dances and other places of amusement, will assuredly give his employer reason to be suspicious of his honesty and integrity.

"2. Men employees are given one night a week for courting and two if they go to prayer meeting.

"3. After spending fourteen hours a day in the store, the leisure hours should be spent for the most part in reading."

New Emphasis on Relation Between SECOND-HAND and OPERATIVE

By WILMER WESTBROOK

3 This third of the group of articles on labor relations in 1941 brings the subject down to the most real working relationship in textile manufacture: that between second-hand and operative. There is nothing abstract about the mutuality of the jobs of these two men. It is a practical relationship, being drawn on every hour of every day. If it fails, then the efficiency of the mill fails. . . . . Incidentally the author of this article has worked as battery-hand, sweeper, cloth-roller, oiler, and weaver—and during the last five years has worked as a loomfixer.—*Editor.*

SOME TIMES the influence a second-hand has over mill operatives is not properly appreciated by management. If he does a good job the mill often lets things ride along, and he may or may not receive proper recognition and financial compensation. On the other hand, if he is not the right kind of second-hand he may do a great deal of damage to morale which will take a long time to overcome. During the coming year the second-hand, like the overseer, is going to become increasingly important because of his proximity to the workers.

The ideal second-hand is one who can run any job in his department, whether it be showing a sweeper how to clean around machinery or swiftly determining the cause of a breakdown. The mechanical phase of his job is the easiest half, since machinery can be depended on to turn out a certain amount of goods, regardless. The second-hand's biggest job is to study human nature and try to understand the traits and characteristics of each individual in order to get the most out of him.

This cannot be done if the second-hand follows a practice common in some of the larger mills of "sticking together" with the other second-hands in sort of an informal fraternity designed to perpetuate the group by influencing the selection of successors for openings which might occur. This is possible chiefly where the overseer relies too much on information supplied by second-hands concerning workers eligible for promotion. Cliques of this sort also have been known to make a "goat" of some worker who is honestly trying to get ahead by accusing him of inefficiency in order to promote a relative or friend. Fortunately, however, second-hands of this character are the exception rather than the rule.

It is particularly important during the coming year for a mill to check up on the efficiency and attitudes of its second-hands and to be careful in making new appointments. A selfish, incompetent, conceited second-hand can play havoc with the morale of any operating force to the extent that the workers some times become openly hostile and commit petty acts of sabotage "to get even."

Some of the qualifications of a good second-hand are as follows: He should have enough education to do all the figuring on the job and keep up with all new equipment and processes pertaining to his work. He should be broad-minded enough to respect the opinion of the lowliest worker. He should have better than average mechanical skill because he will be called on when a machine cannot be repaired by normal methods. He should be dignified and firm enough to command respect, yet friendly enough to obtain full cooperation. He should be competent to do anything he asks others to do and energetic enough to set the pace in attaining a production record for his department. He should be willing to try out new ideas and big enough to give credit to the originator. Many suggestion systems fail to work because the second-hand either resents receiving a new idea from any employee or appropriates the idea for his own if it is good.

IN SELECTING an employee for promotion to a second-hand's job, management might ask itself the following questions about the individual: Does he run his present job through habit and solve new problems by trial and error? Is he capable of reaching a conclusion by deduction, or does he have to rely on experimentation? Is he prone to be clannish, or is he friendly with every one? Does he spend his spare time in recreation and study, or in loafing and carousing? Does he take an active part in the affairs of the community? Does he have a satisfactory home life, or do domestic troubles prey on his mind and cause him to be dour and short-tempered?

Most second-hands attain their positions by one of three routes: (1) by working their way up through the mill, (2) by studying specialized subjects in college, night or trade schools, or (3) by the "pull" of a friend or relative among the mill officials.

The first route usually produces the best second-hands because nothing can take the place of actual experience. The man who has worked in the mill can put himself in the shoes of each worker and feel and think as he does. Another advantage of promoting from within the ranks is that it gives each employee a mark to shoot at, whereas if the job is given to an outsider the employees soon lose all initiative and ambition.

The second-hand with plenty of book-learning but no practical experience is up against a tough job unless he pools his knowledge with the experience of trained employees after gaining their cooperation. But unfortunately, he is likely to find it difficult to get this cooperation as many mill workers are apt to be clannish where outsiders are concerned. Another weakness of this type of second-hand is that he is likely to use the job only as a stepping stone to something better and never bother to work with or understand the people.

The second-hand who obtains his job through pull usually is incompetent to begin with, and it does not take the workers long to "get on to him." He usually gets fired sooner or later as he can seldom measure up to the specifications demanded by an impartial overseer.

Superintendents and overseers who find their work dragging would do well to look into the matter of their second hands, since efficiency and attitude of employees are directly related to these key men.

REGULAR MONTHLY SECTION FOR FEBRUARY, 1941

TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

Mill Ends

THIS, GENTLE READER, marks the dividing point between the Annual Review and Forecast Section and the Regular February Issue.

And, since this is the Regular Editorial Page, Ye Editor could use it to report on the state of the nation. However, it is quite possible that we and our contributors have been sufficiently pontifical in the preceding pages. And so we'll relax and catch up with a folder of notes which we have been collecting.

* * *

O P M: We are shocked at the sloth of American columnists. Not one of them so far as we know—not even F. P. A.—has discovered that those initials for the Office of Production Management also coincide with the abbreviation for Other People's Money. Maybe we shouldn't have brought it up.

* * *

ADD NATURE STORIES: So far as we recall, no vulture has ever been bitten by the carcass on which he was feeding. That would make "Man Bites Dog" seem like a routine news-item. And yet it may happen! Free Frenchmen in Africa may eventually repay Mussolini for his "stab in the back." And even now, Haille Selassie is in a position to change the inscriptions on monuments to victory! . . . It is doubtful that any major figure in history ever played a more despicable role than has this pseudo-Caesar. Even if his friend the paper-hanger saves him from complete destruction, he will still rate as the World's No. 1 Exploded Stuffed-Shirt.

* * *

SPEAKING OF SHIRTS, here's a news-item from Berlin: "Norway's new clothing rations permit a man to buy only one new suit and shirt a year or their equivalent in other garments. A digest, appearing in the 'Deutsche Zeitung,' said a clothing ration card contained 300 points for one year. A man's suit takes 240 points and a shirt 60. A warm coat for a woman costs 200 points, while a cotton summer coat requires 150, a wool dress 120 and a pair of stockings 15." And remember it *could* happen here, if the Nazis beat Great Britain.

* * *

ADD "WHAT NEXT?" DEPARTMENT: Reich Marshal Goering's magazine "Vierjahresplan" (Four-Year Plan) appears nowadays on paper made from potato vines. Germans predict that potato-vine cellulose will soon be used in the manufacture of yarns and fabrics. . . . A new kind of silk worm is in process of being bred in Japan which will produce a wool-like fiber instead of silk. . . . A Japanese firm, the Formosa Development Co., is producing what it calls a "perfect synthetic hemp" from waste banana skins. About 4,000,000 lb. of the product are to be made annually. . . . This last item gives some point to the old "joke": "She slipped on a banana peel and came down-stairs."

* * *

THE BRITISH are a decadent and dying race, Herr Hitler tells the world. Here is one of its last gasps: The women of Britain do not expect to have any new silk stockings in 1941. But this year the country's normal annual *export* of a million pairs will probably be doubled. India will be buying most of them. To attract people to the Indian bazaars great quantities of silk stockings from Japan have been dumped down and sold without profit to attract custom. The Jap makers have been flattering enough to copy the trade marks of the real English article. Britain is preparing for these pirates not only in India but elsewhere. South Africa is one other important market; Malaya a third. These and others will be intensively cultivated during the coming year with a new range of eleven shades, among them Dimple, Freckle, Heather, Mystical, Pintail, Shellac and Twilight. . . . This, ladies and gentlemen, is what a "decadent"race does. In its days, punctuated by sleepless nights, it not only carries on its domestic business as usual but thinks up Dimple and Freckle shades for the Malays, so that its export trade and credit balance will not suffer. . . . If Hitler had much of that sort of "decadence" in Germany, we *would* be scared!

* * *

ONE FLYER TO ANOTHER: From a report of a banquet, comes this item: "Capt. Edward V. Rickenbacker, America's leading ace in the last war, jolted the audience with this declaration: 'You are enjoying liberties at this very banquet, this very evening, that in my opinion you will never enjoy again as long as you live, and maybe as long as your children live. You are enjoying a standard of living at this very moment that I question whether you will ever enjoy again, or whether your children will enjoy.' Capt. Rickenbacker said that if the British capitulated, the United States would have to become the greatest militaristic power in the world, able to protect everything within 2,000 miles of its shores." . . . We have a hunch that Capt. Rickenbacker's over-statements are nearer the truth than are Col. Lindbergh's under-statements.

QM Gets $175,000,000 More Textiles

Plan to conduct long-term purchasing—Wants 20,000,000 yd. cotton cloth

McGRAW-HILL WASHINGTON BUREAU

PAUL WOOTON, Chief Correspondent
Blaine Stubblefield
Irvin D. Foos Carter Field
Robert Colborn M. G. Maury

By BLAINE STUBBLEFIELD

THE QUARTERMASTER, strongly supported by William Knudsen and other defense leaders, got from Congress $175,000,000 to place long-term orders for cloth and clothing. The objectives: to avoid repetition of current delays in case of urgent need; to keep costs equitable; to minimize any necessary curtailment of civilian needs; to help maintain stable level of employment. Independent observers said move was in anticipation of mobilization of workmen.

It is expected that many orders under the $175,000,000 appropriation will be placed immediately, but long-term delivery agreements will be made where necessary to avoid congestion. QM will seek the advice and confidence of manufacturers in determining the delivery dates. It is agreed between QM and Defense officials that orders should be placed from six months to one year in advance of the time the goods are needed. First calls under appropriation will be for wool garments and underwear, and 2,000,000 blankets.

While the Quartermaster's request is not called a deficiency measure, that's what it is, technically. But the way is still open for any or all of the deficiency requests previously contemplated to fill out this fiscal year. Indications are that the deficiencies and the fiscal 1942 appropriations will be voted as outlined in December and January issues of this magazine.

The long-term procurement program is a joint effort between the Quartermaster and the OPM's Division of Purchases, which is headed by Donald Nelson. The recommendation was written for publication by A. J. Browning, deputy director of the Division. It has all the earmarks of industrial planning. Of more interest to the industry than who started this move is this demonstration of cooperation between the quartermaster and the Defense authorities.

A rush buying program such as we have just gone through, says the OPM statement, tends to create bad market conditions. It has been impossible to time the buying, the report states, so as to enter the market at the most favorable periods. Temporary shortages have been created which have resulted in squeezes and high prices. Costs of most items have advanced materially and there has been considerable disturbance to industry and labor.

The heavy commercial buying of clothing items similar to those used by the Army takes place in the summer and fall. The practice of providing the Quartermaster with funds on the basis of the Government's fiscal year makes it necessary to pile the purchasing for the Army on top of the peak of buying by consumers.

Wool cloth in the amount of $69,645,436 is by far the biggest item on the Quartermaster's long-term proposal. TEXTILE WORLD has predicted, on sound information, that another effort would be made, probably with success, to store large quantities of wool goods. This is it, or part of it. Wool is a highly strategic item, due to inadequacy of the domestic raw-material supply. Placing of the proposed orders is expected to prevent bottlenecks and sharp price rises such as occurred in the fall of 1940. In addition to cloth, QM proposes to buy $13,760,000 worth of blankets under this one appropriation.

Conversion of cloth into garments is third on the list, with $21,980,464 provided for the purpose. QM has 15,700,000 yd. of wool cloth on order, being delivered now and into July. If funds are now provided for conversion into garments, the manufacturers can fit the work into the present slack season.

TO SOLVE THE PROBLEM of procuring 8.2 oz. cotton khaki cloth, it will be necessary to make long-term contracts immediately, in the opinion of OPM and QM. Capacity for producing this material is limited and there is no large civilian supply to draw upon for military use. It is desired to make the most effective use possible of facilities for weaving this cloth. During recent months it became necessary to purchase six substitute materials, and the Quartermaster says that each was progressively less satisfactory for military use. Incidentally, the Feb. 2 call for bids on 20,000,000 yd. of denim and 20,000,000 yd. of 8 oz. twill is part of the current fiscal program and has no connection with the new long-range program. QM intends to buy only the 20,000,000 yd. of twill but is asking for denim in case twill offerings are short.

The Army's requirement of heavy underwear during the current year was greater than the normal production for civil use. After open-market purchases of all available supplies, the Army is still short of this apparel and the situation might be serious next winter unless ordering is started now. Manufacturers of wool gloves stated to QM that their prices would be 10 to 15% lower if they could produce for the Army during their off season.

An emergency calling for full mobilization would of course put the industry on a war-time basis. But this long-term purchase planning means, to the industry, that a thoughtful effort is being made, in equipping the Army as now constituted, to avoid any further disruption of production and markets due to sudden overloads.

Proposed Purchases With $175,000,000 Long-term fund

Wool cloth	$69,645,436
Wool blankets	13,760,000
Conversion of cloth into garments	21,980,464
Cotton, khaki, cloth	26,160,029
Woolen undershirts and drawers	12,285,000
Wool gloves	1,640,000
Wool socks	4,426,472
Leather gloves	3,978,504
Service shoes	11,070,000
Leather boots	2,644,182
Canvas leggings	1,607,661
Raincoats	3,000,000
Mosquito bars	2,955,000
Total	$175,152,748

Fabrics For National Defense

Data on 32-oz. melton overcoatings and new wool necktie fabrics for Army use

IT GETS PRETTY COLD at such northerly Army posts as Fort Ethan Allen, in Vermont; Fort Custer, in Michigan; and others. That's one of the important reasons why 1,500,000 yd. of 32-oz. all-wool melton overcoating material has so far been ordered by the Quartermaster Corps. Information on production of this cloth is given below, together with essential data from the applicable specification, No 8–53.

Stock—55% wool of 44s grade or finer, 10% wool of 58s grade or finer, 35% reworked wool or noils. Maximum of 2% allowable residue on boil-out.

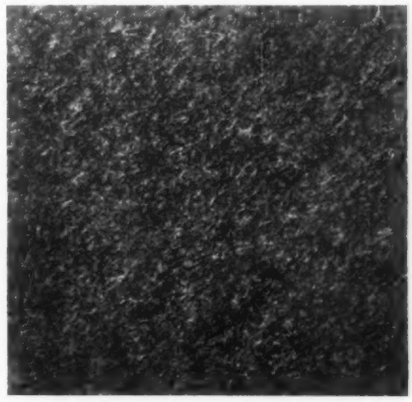
Yarns—Spun on woolen system. [Although not stated in the specification, use of 2.1 typp (7 cut, 1.3 run) yarns for both warp and filling, with ends and picks as detailed below, will yield a fabric of approximately correct weight. Use of S twist for warp yarns and Z twist for filling, or vice versa, is recommended, and should result in a smoother and better face, since this fabric requires heavy felting.]

Color—Olive drab, produced by blending olive and white wools. Permanency must be equal to that of standard sample when treated with sodium carbonate, when washed, when weather tested, and when exposed in Fade-Ometer.

Physical Requirements — Finished width, not less than 56 in., nor more than 58 in., exclusive of selvages; finished weight, not less than 32 oz., nor more than 34 oz. per yd.; ends and picks, finished, not less than 36 x 36. [Although not stated in the specification, using yarns listed above, 2,100 warp ends (plus selvage) reeded 4 ends per dent in 7½ dent reed 70 in. wide, and 30 picks per in. at the loom —with the finishing procedure detailed below—will yield approximately correct finished cloth.] Breaking strength, finished fabric, 1 x 1 x 3 grab method: warp, 80 lb. min.; filling, 65 lb. min. Weave, six harness three up and three down twill, broken.

Finish—No data given in specification, [A suggested finishing procedure is to tack selvages together, face inside. Then full slowly, with soap of good body, and do not allow pieces to get too warm in mill. Try to get the shrinkage in width and length at the same time. Full to 56 in. wide. After fulling, rinse cloth well in warm water. Follow by a second soaping, and rinse again in warm water, making sure all soap is removed. Finish with cold rinse, to set the cloth. Extract and dry at 57 to 58 in. inside selvage. Shear cloth lightly on back, and give face two or three runs. These should not be too close, as a good cover is wanted on the face. Follow this by brushing, run over dewing machine, and heavy pressing. Cloth should be run over conditioning machine or allowed to lie for a few hours between dewing and pressing, so that the moisture can penetrate the fibers.]

Soldier wearing overcoat of 32-oz. all-wool cloth specified by Army



True-size photo of finished Army overcoating fabric

THE ARMY HAD TO STOP using imported silk in the neckties it buys, as noted in last month's issue. Hence, it recently revised its specifications to require all-worsted challis; and shortly thereafter called for six million ties. The appropriate specification (No. 7–1D, with several exceptions) contains both fabric and tie construction data. Parts relating to fabrics, including exceptions recently announced, are briefed below.

Stock—Wool not lower than 64s grade.

Yarns—Both warp and filling spun on worsted system. [Although not stated in the specification, use of 21.3 typp (1/38) warp yarns, and 29.2 typp (1/52) filling yarns, with ends and picks detailed below, should yield a fabric of approximately correct weight.]

Color—Approved shade of fast jet black produced with chrome colors. Must show good fastness to laundering, weather, crocking, and perspiration.

Minimum Physical Requirements—Weight per square yard, 3 oz.; ends and picks, finished, 64 x 52; weave, plain. Breaking strength, 1 x 1 x 3 grab method: warp, 28 lb.; filling, 20 lb.

Finish — Thorough scouring; face clear, closely sheared, singed if necessary, and well pressed. Use of finishing or loading materials to increase weight or strength prohibited.

No. 7 in a series presenting data on national-defense fabrics. Installments have appeared in each issue since August, 1940.

New York Acclaimed in Colossal 1941

AMERICAN-CREATED FASHIONS received their greatest impetus to date at the fourth annual "Fashion Futures" of the Fashion Group, which was held Jan. 8 and 9 at the Astor Hotel, New York. The event attracted an unusual amount of attention, thanks to the double sponsorship of Mrs. Franklin D. Roosevelt and Mayor La Guardia, plus the auspices of the Mayor's Business Advisory Committee of which George A. Sloan is chairman.

From the textile industry point of view interest centered on the fashions as related to fabric, design, color, finish, and market prospects for yardage. The show was sumptuously presented against scenic backgrounds which would have done credit to the most extravagant Broadway musical comedy. Airplane fields, railroad stations, subway entrances, served to dramatize current styles, and nearly 300 models of sport, spectator, street, afternoon and evening wear were shown. Among the principal fabrics were coverts, tweeds, corduroys, shantungs, jerseys, flannels and chiffons. Green in dozens of variations was the major color, with beige tones and a range of violet shades as runners-up.

Various factors made the show outstanding, as compared to its predeces-

1. Spring millinery—a shallow, heart-shaped hat of mauve and pink flowers with long streamers of purple jersey in back. **2.** Trend toward capes and black-and-white. Black wool cape lined with white rayon crepe, worn over white crepe dress. White wool jersey in hat. **3.** Handcraft fashions in dinner dress with black crocheted bodice, mohair skirt, and flounce of rafia-like material. Red grosgrain girdle. **4.** Shoulder interest trend, showing blouse of amethyst and cream-striped shirting worn over cream-colored shorts. **5.** Five candidates for title of "Miss Fashion Futures" arrive at LaGuardia Airport—Left to right: Josephine Caldwell (who later won the title), Philadelphia, blue and red plaid coat; Marjorie T. Kinsley, San Francisco, basket weave woolen coat in beige; Margaret Hayes, Los Angeles, purple coat with velvet collar; Gaby Dure, Chicago, gray cape outfit with button-on facing and collar of white piqué;

Style Center of World "Fashion Futures"

sors. First, all participants, including the chief firms in the textile industry, garment trade, dress designers and retailers, were anonymous. In her monologue as commentator, Miss Margaret Case, of *Vogue*, emphasized that the hundreds of firms cooperating had agreed to do so without credits, the sole aim being to present a collective picture of New York as the world's fashion center.

Despite its flamboyant moments, the show was more practical than usual and included a wide range of models at prices likely to bring big volume. New balloon gloves, with their abundant yardage, were an interesting feature. Growing use of flat knits in tailored dress goods was repeatedly emphasized. A page of the program was devoted almost entirely to extoling the fashion accomplishments of textile finishers.

The trend toward increased yardage was manifest in bows, trimmings, skirts, and generally flowing lines of the garments. Embroidery and the military note were accentuated, and brilliant colors were featured. Lace is coming back actively, one striking group being composed entitrely of lace evening gowns. Whipcord and corduroy were dominant in ultra-masculine sportswear.

Frances Fedden, New York, blue herringbone cape outfit with jacket and facings of navy and gray herringbone tweed. **6.** Celebrities—David Dubinsky (at left), president of International Ladies' Garment Workers' Union and member of the National Defense Advisory Commission and Fiorello H. LaGuardia, Mayor of New York City and honorary chairman of New York's Fashion Futures. At right, manniken wearing new bi-color (green and white) pajamas. **7.** Yellow, blue and pink plaid taffeta bonnet, secured with navy tulle scarf. **8.** Shoulder interest again—beige wool tweed longer-than-usual jacket with brown pleated skirt. **9.** Beige for spring—a longer jacket suit of covert cloth. **10.** Green as new evening wear color is shown in this chartreuse chiffon gown with lace midriff. Photos from Fashion Futures of Fashion Group, Inc., jointly with F.O.G.A., Uptown Retail Guild, and individual creators.

Textile Men Meet with Council

Manufacturers participate in cotton group's sessions in Augusta

THE NATIONAL COTTON COUNCIL of America held its third annual meeting at the Bon Air Hotel, Augusta, Ga., Jan. 27 to 29. In addition to the address by Oscar Johnston, president, the delegates had the privilege of hearing W. L. Clayton, internationally-known raw-cotton man, and an address prepared by Donald Comer, chairman of the board of Avondale Mills of Alabama.

Over two hundred delegates from 19 States attended the convention to discuss the problems facing the South's greatest interest. Producers, ginners, warehousemen, merchants, and crushers were represented on an approximately equal basis. "Promotion and expansion of the consumption of American-grown cotton, cotton seed, and the products thereof in the markets of all the world," to quote from President Johnston's address, is the main object of the organization.

Keen interest in the affairs of the Council by representatives of textile manufacturers was indicated by the attendance of a committee representing the American Cotton Manufacturers Association, composed of F. W. Symmes, president, W. M. McLaurine, secretary, A. K. Winget, and A. W. Fisher. Dr. C. T. Murchison, president of the Cotton-Textile Institute; Dr. W. P. Jacobs, executive vice-president, and W. Stanley Converse, of the Cotton Manufacturers Association of S. C.; and Dwight Wilhelm, secretary of the Alabama Cotton Manufacturers Association, and other manufacturers also attended. Mr. Johnston expressed the appreciation of the interest shown by these visitors and announced that the board of directors had appointed a committee to discuss with the manufacturers the possibility of development of plans and methods by which the activities of the manufacturers and the council might be more closely coordinat d.

In speaking of this movement, Dr. Murchison said: "The cotton problem is of equal interest and equal importance to all groups—council, manufacturers, institute—and cooperation is wise, and not only possible but very likely."

One of the high-lights of the convention was a moving picture film produced and shown by Ed Lipscomb, director of publicity, in connection with the report of the Committee on Domestic Consumption. In the preparation of the film, Mr. Lipscomb was ably assisted by Garner James and Ernest Stewart. Various activities of the committee from coast to coast were graphically described, and direct benefits were attributed due to projects undertaken.

At the final session, the existing board of directors was re-elected to serve the coming year, and the board in executive session immediately re-elected the following officers: Oscar Johnston, Scott, Miss., president; Robert R. Coker, Hartsville, S. C.; Lamar Fleming, Houston, Texas; and Harold A. Young, Little Rock, Ark., vice-presidents; Wm. T. Wynn, Greenville, Miss., treasurer; Wm. Rhea Blake, Memphis, Tenn., executive secretary.

Oscar Johnston (right), president, the National Cotton Council; Wm. Rhea Blake (left) secretary of the council, at the Augusta convention

A.C.M.A. Committee at Cotton Council meeting—(left to right)— A. K. Winget, Efird Mfg. Co., Albemarle, N. C.; A. W. Fisher, Cannon Mills Co., Kannapolis, N. C.; Fred W. Symmes, Union-Buffalo Mills Co., Greenville, S. C., president of A.C.M.A.; W. M. McLaurine, secretary of A.C.M.A.

Textiles, Inc., Out of Receivership

Step taken at meeting of combed-yarn firm's stockholders

THE BEST NEWS heard in any textile community during January was the announcement in Gastonia, N. C., that Textiles, Inc. would come out of receivership in 1941.

Textiles, Inc., was formed in 1931 by the merger of approximately 200,000 spindles under one management. It has operated since July 1933, with A. G. Myers as receiver.

On Jan. 21, 1941, at a meeting of voting stockholders the following plan was unanimously adopted:

Ten year 5% debentures, in the amount of $900,000, will be issued and used for the purpose of taking up in cash at $135 per share the outstanding "A" preferred stock amounting to $695,500. Common stock, $10 par, will be called in and re-issued share for share, in no par value. New preferred stock will be issued, and for each outstanding $50 share of "B" preferred stock 3 shares of $25 par value stock will be exchanged. The new preferred will carry a 4% dividend rate and through the exchange will cover a large portion of cumulated dividends.

A. G. Myers, receiver of Textiles, Inc.

According to Mr. Myers, Textiles, Inc., has under its receivership shown an operating profit of $2,500,000, and the current position as of June 30, 1940 showed approximately $1,000,000 over all current liabilities.

To the hundreds of small stockholders in this corporation this news is especially heartening. It means possible dividends in the face of expected good textile business in the next few years. All have already felt the effect of the ready market for Textiles, Inc. stock, for the price on both "B" and common has advanced considerably. It will be recalled that a while back "B" reached a low of $4.00 a share and common went down to 20¢. Since the announcement of the termination of the receivership, "B" has advanced from $25.00 to $37.00 and common from $1.25 to $2.25.

Certificate-Plan Chance Grows

By PAUL WOOTON

Chief Washington Correspondent, TEXTILE WORLD

A SITUATION is developing which increases the chances for the adoption of the certificate plan as one of the methods for subsidizing agriculture. It is true that no agitation for such legislation has begun at the time of this writing. Only a few letters on the subject have been received by the Ways and Means and Finance Committees but prospects favor a reduction in appropriations for soil conservation and other benefit payments. When it becomes more generally known that regular appropriations are likely to be reduced to offset to that extent the extraordinary authorizations being made for defense purposes, support for the certificate plan will spring up quickly, it is expected.

There is no doubt that a majority of members of each of the committees, and for that matter of the Senate and House as a whole, are opposed to consumption taxes but when direct appropriations for agriculture are cut such scruples are likely to go by the board.

President Roosevelt recently emphasized his opposition to consumption taxes in general but when he was asked if that includes the certificate plan he declined to be definite. There is strong support for the plan in the Department of Agriculture.

In 1939 the rice growers made a strenuous effort to induce Congress to try out the certificate plan on their small industry. It was suggested that if the plan worked well it then could be applied to major crops. This year, however, the rice growers are receiving satisfactory prices and do not expect to renew their demand for a certificate plan.

To the $17,485,528,049 budget must be added the amounts necessary to insure a continuous flow of munitions to the British. With armament expenditures at such a level there can be little doubt that other funds will be cut. This will give great stimulus to any plan for which an appropriation is not required.

A TAX ON THE POOR

The certificate plan, alias processing tax, is unsound from every standpoint.

It would throw out of true alignment with general price-levels the prices of those commodities on which the tax would be levied.

In the case of cotton, the plan is diametrically opposed to, and would tend to nullify, the Government attempts toward increased consumption, undertaken under congressional mandate.

Most important of all, however, it is a consumption tax whose burden would fall most heavily upon the poor: upon the work-clothes, sheets, and other necessities of life which form so appreciable a part of the poor man's budget. As such, it should be the target of attack by consumer groups throughout the country.

—Editor.

Hosiery Men Scan War Economy

Labor relations, prices, legislation, etc., analysed before Fifth Annual Conference

THE VITAL IMPORTANCE of costs and prices during the abnormal, war-time economy with which business is confronted was touched upon by most of the speakers who addressed the Fifth Annual Hosiery Industry Conference on Jan. 9 and 10 at the Waldorf-Astoria Hotel in New York. Their general attitude was the practical one that runaway prices would bring an aftermath of many ills, the least of which might be more rigid control by the Government.

J. D. Millis, of Adams-Millis Corp., chairman of the National Association of Hosiery Manufacturers, opened the meeting with a keynote address.

Earl Constantine, president of the National Association of Hosiery Manufacturers, presided at the various sessions. George F. Lang, president of the Full-Fashioned Hosiery Manufacturers of America, and J. H. McEwen, president of the Southern Hosiery Manufacturers Association, were honorary chairmen.

On the evening of Jan. 9 a dinner was tendered to John Wyckoff Mettler, founder and president of the Interwoven Stocking Co., and an active leader in hosiery industry affairs for many years. Earl Constantine presided at the dinner and introduced numerous friends and associates of Mr. Mettler and finally the "Chief" himself. After giving the 350 diners many interesting reminiscenses, he turned to present-day affairs and pointed out that under coming conditions the industry will have to employ more less-competent workers with consequent downward trend to efficiency. He also pointed out that hostility toward profit is likely to strip industry of working capital.

William M. Leiserson, member of the National Labor Relations Board, was introduced to the conference as "the strongest personality on the NLRB". Dr. Leiserson said that the relationship between labor and management was a psychological problem, similar to relationships that exist in a family, and when the human race solves the family problem then there might be an adequate solution to the labor problem. He added that the industrial family had a peculiar difficulty in that there were more than two parents, the "employer" being in fact a hierarchy of managers from the president of a company down, about 10% of the personnel. He said that the basic relationship between management and labor was collective bargaining since that function brought together unified views on each side. He explained that the Government had made the collective bargaining relationship into a law, not because the Government was against management, but because the Government wanted to do away with a tremendous number of petty disputes, adding, "you can avoid any clash with the law by settling your disputes by collective bargaining." He pointed out that unions are the workers' trade associations and that under collective bargaining the workers have one vote and the employers one vote. He added that if management refused to come to an agreement, the workers might go to see their Congressman and under those circumstances they had the weight of about nine votes to the employer's one vote, in which case management was bound to lose.

The speaker further explained that NLRA is a mild, educational act, merely setting down five things as unfair labor practices which the employer must not do. NLRB must respond to its finding of facts by issuing cease and desist orders, which merely mean "please don't do that any more," and he pointed out that no employer had yet gone to jail under the act. Outside of the first few years of NLRA when defiance on one side brought defiance on the other, Dr. Leiserson said that the act had considerably cut down the number of strikes, explaining that over the years one-half of all strikes have been involved with matters of recognition and organization, and that this type of strike has now disappeared. He expressed belief that the act did not need any change, and that if management takes its amendments to Congress it may come out with a more drastic law than the present one.

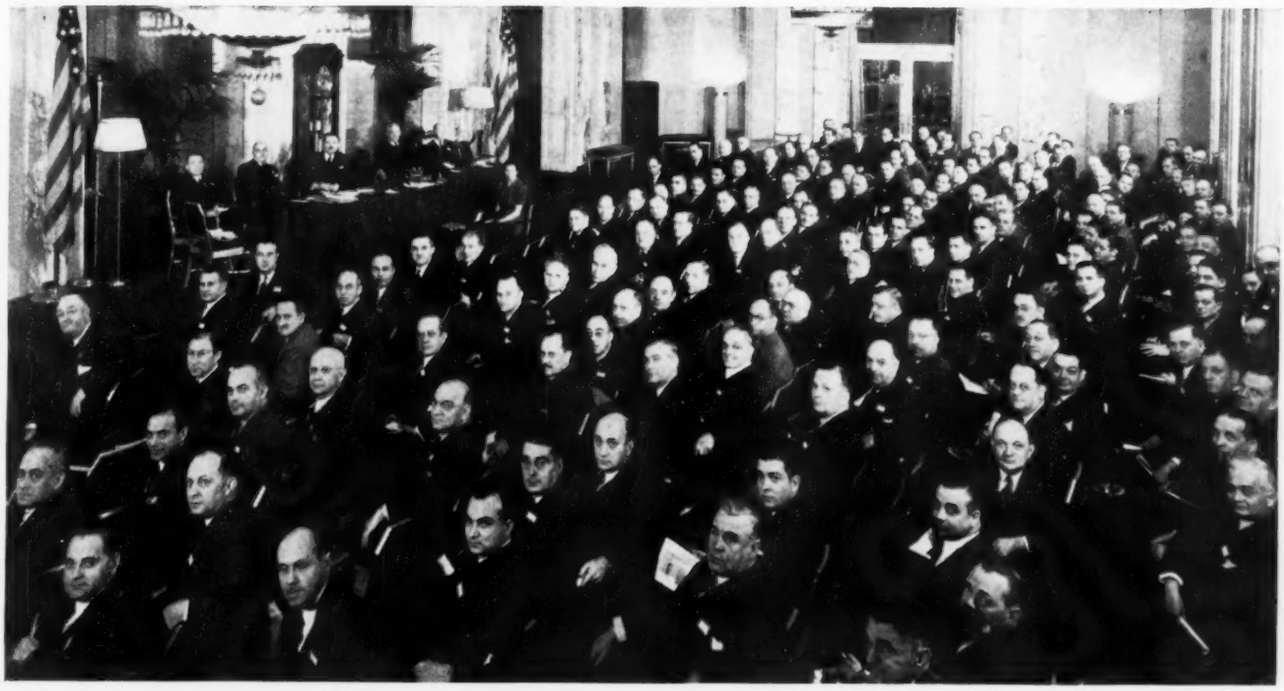
Frank M. Folsom, Assistant Coordinator of National Defense Purchases, said, "The purpose of the National Defense Commission in advising with the procurement branches has been to be helpful from a civilian point of view so that (1) Orders will be distributed as widely as possible. (2) As little disturbance to civilian business as possible occurs and unwarranted price-raising is avoided; (3) The big overstocks which play havoc with business after the war crisis has passed may be prevented. Are prices rising too fast? Definitely, I think they are! If Industry doesn't want to be regimented and controlled, Industry had better seize the chance to bring itself into line without Government having to do it. Are the quality requirements too stringent? Definitely, no! This is a peace-time army and certainly the men should receive the best, which in the long run will be the cheapest and give the most service. Priorities will not be used unless it is absolutely necessary. An industry as cooperative as the hosiery industry, and with the capacity the hosiery industry has, in my opinion does not have to worry about priorities."

Walter W. Chamblin, Jr., executive director, Washington office, National Association of Manufacturers, emphasized the seriousness of the present emergency and urged that it was time for consideration only of large issues and for the passing over of pettiness. Among the larger issues, he listed revision of the Johnson Act and of the neutrality law, aid to Britain and how far to go in line with American safety, capital and labor relationship, the ever-enlarging debt, large taxes, priorities, use of American ships in convoy work, etc., and he reviewed pending bills.

Mr. Chamblin said that the Department of Justice had a four-point program involving the following: (1) An industrial court for anti-trust action; (2) a measure to control trade associations by licensing or otherwise; (3) subpoena power for the department; (4) increased personnel. The speaker expressed his belief that in the new Congress the initiative would return to the House, away from the Senate where it has rested for several terms.

Lew Hahn, general manager, National Retail Dry Goods Association, pointed out the value of manufacturer-retailer cooperation in avoiding runaway prices. He pointed out that the lessons of the last war are still vivid in the memory of retailers, and how at that time a wave of public distrust had been started and the so-called buyers' strike precipitated a sharp reaction, bringing cancellations, hand-mouth buying, etc. "We retailers don't want to be burned again," he said.

Mr. Hahn stated his belief that the



Opening session of Annual Hosiery Conference. Messrs. Bechhart, Constantine, Folsom, Millis and Johnson at table

Government was not fooling in its price warnings, and explained that retailers had been asked by Miss Harriet Elliott, consumers' representative on the defense commission, to prevent "unjustifiable advances" and to avoid scare advertising of the "buy now" character. His association's buyers' pledge to question and report any unjustifiable price advance and to avoid scarcity talk, has been signed by more than 10,000 buyers. Mr. Hahn stressed the word "unjustifiable," adding that he believed that no matter what we did prices must ultimately go up, and he had no doubt that there would be many justified price advances.

Pyke Johnson, trade association consultant to the National Defense Advisory Commission, and executive vice-president of the Automobile Manufacturers Association, spoke on the urgency of speed in the defense program. He outlined seven functions which he believes are an important part of trade association's job in this emergency: (1) information on trends and policies; (2) broader contacts (in same field, and with other industries); (3) statistics; (4) public relations; (5) cooperation in Washington; (6) standardization; (7) the "look-ahead" problem in caring for the situation which will follow when defense needs are completed. Among many things which lie ahead in the next six months, he stressed the price situation as being one of the most important, involving as it does the danger of price advances.

B. H. Beckhart, professor of banking, Columbia University, and economist of the Chase National Bank, spoke in part as follows:

"Forecasts of business developments through the coming year are predicated upon continuance of the defense program. On this basis, forecasts are unanimous that indices of industrial production will continue at high levels. Taxes should be employed to the greatest extent possible in financing the defense program in order that debt increases may be restricted. Armaments do not constitute a desirable basis for debt. To the extent that obligations must be floated by the Government, every effort should be made to sell these directly to investors who should be induced to save to buy the issues for which they subscribe, and not to borrow for that purpose."

"Higher rates of interest will be necessary to enable the Government to sell its obligations to bona-fide investors; to give people greater confidence in the purchasing power of the dollar; to prevent prices from rising as much as would otherwise be the case and will reduce the costs of the defense program."

George W. Guth, of Socony-Vacuum Oil Co., sketched trends in social security. "Benefits under the Social Security Act have been broadened," he said, "so that they should not be tampered with for some time to come, except to iron out a few inequalities." Going on to consider the State unemployment compensation acts fostered under Title IX of SSA, he pointed out that among optional provisions were separate employer reserve accounts, guaranteed employment accounts and experience or merit rating. He stressed the fact that the President in his message had said that the larger purpose of these acts was reduction of unemployment and not payment of benefits.

"Experience rating," said Mr. Guth, "is the medium by which the tax rate of individual employers or groups of employers is adjusted in proportion to their success in furnishing their employees with steady work. Employers who provide steady work pay a lower tax rate than those who do not. This is sound because benefits from Unemployment Compensation funds will be drawn chiefly by employees of those employers who do not provide stable employment, and such employers will therefore be called upon to make larger payments to the fund. Thus, experience rating, in addition to being an incentive to stabilize employment, provides a means of replenishing the Unemployment Compensation Fund in proportion to the need for replenishment."

Victor H. Stempf, of Touche, Niven & Co., and president of National Association of Cost Accountants, spoke on cost control through a standard costs and "variance" accounts.

John F. Chapman, foreign editor, *Business Week*, told of the world crisis and business. He said, "We are headed for the biggest business boom this country has known, though it may not be the most profitable one. American business is already in this war. Executives should prepare themselves for the drastic changes they have seen in the British way of doing business."

Rayon Again Sets New Records

Domestic production new high—World output of staple passes filament yarn

IN 1940, the United States rayon industry broke all previous production records, according to the *Rayon Organon*, published by the Textile Economics Bureau, Stanley B. Hunt, editor. Total rayon filament yarn and staple fiber production in 1940 reached a new all-time high total of 471,170,000 lb. which was 24% greater than the 379,939,000 lb. produced during the previous record year of 1939. A comparison of production data for selected years is shown in Table I.

In the same table are shown preliminary estimates for 1940 world rayon production, together with figures for selected earlier years.

Outstanding in the 1940 world rayon production data is the fact that staple fiber production was greater than filament yarn production for the first time. The progress of rayon staple fiber production is one of the most interesting phenomena in the world's textile history. In the span of a single decade from 1930 to 1940, world production of rayon staple fiber increased from 6,000,000 lb. to 1,350,000,000 lb., a gain of 225 fold!

This 1940 staple fiber production record was due principally to a tremendous increase in the output of the German staple fiber industry. Italy's production also increased, while Japan's remained approximately at its 1939 level. The great need of the "Axis Powers" for a substitute for foreign-grown cotton and wool has been the principal stimulus to this great growth of the world staple fiber industry over

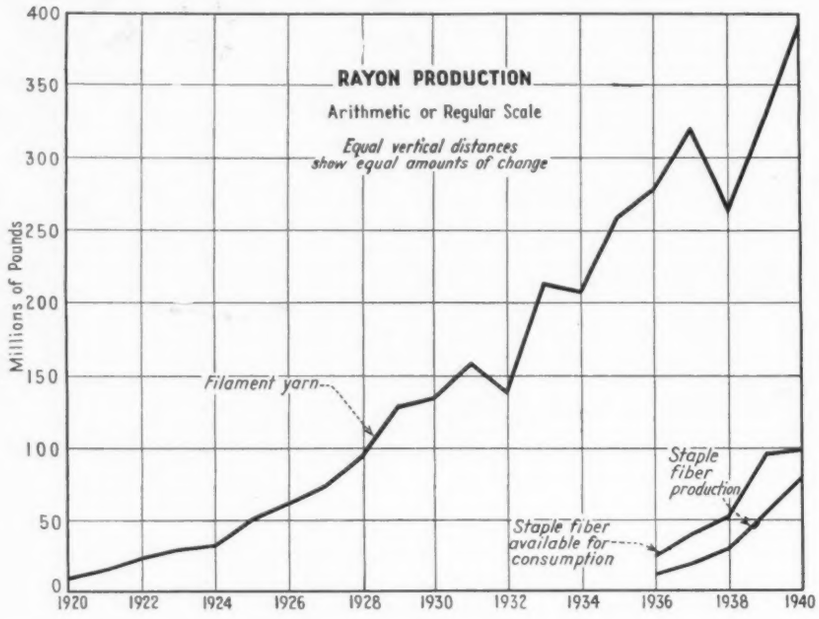


TABLE I—U. S. and World Rayon Production

UNITED STATES RAYON PRODUCTION IN MILLIONS OF POUNDS

	1940	1939	1938	1937	1936	1935	1930
Rayon Filament Yarn.	390.1	328.6	257.6	321.7	277.6	257.6	127.3
Rayon Staple Fiber...	81.1	51.3	29.9	20.2	12.3	4.6	0.4
TOTAL.....	471.2	379.9	287.5	341.9	289.9	262.1	127.7

WORLD RAYON PRODUCTION IN MILLIONS OF POUNDS

	(est.) 1940	1939	1938	1937	1936	1935	1930
Rayon Filament Yarn.	1,150	1,145	990	1,199	1,023	940	451
Rayon Staple Fiber...	1,350	1,082	958	619	299	140	6
TOTAL.....	2,500	2,227	1,948	1,818	1,322	1,080	457

TABLE II—Distribution of Domestic Rayon Yarn Shipments by Trades

(Units Are Millions of Pounds and Percent)

	Hosiery lbs.	%	Other Knit lbs.	%	Broad Woven lbs.	%	Narrow Woven lbs.	%	Miscellaneous lbs.	%	Sub-Total Knit lbs.	%	Sub-Total Woven lbs.	%	Total Shipments lbs.	%
1925.....	10.7	20	10.5	20	26.1	50	2.9	5	2.6	5	21.2	40	29.0	55	52.8	100
1926.....	10.3	20	15.0	29	21.2	42	2.2	4	2.6	5	25.3	49	23.4	46	51.3	100
1927.....	16.7	20	28.9	34	31.5	37	3.3	4	4.6	5	45.6	54	31.8	41	85.0	100
1928.....	11.7	17	32.9	37	32.5	37	3.2	4	4.7	5	47.6	54	35.7	41	88.0	100
1929.....	18.8	16	43.7	37	45.4	39	3.1	3	5.4	5	62.5	53	48.5	42	116.4	100
1930.....	16.5	15	38.0	34	49.5	44	3.0	3	4.6	4	54.5	49	52.5	47	111.6	100
1931.....	21.1	14	48.7	31	75.6	49	4.0	2	6.2	4	69.8	45	79.6	51	155.6	100
1932.....	19.0	13	38.0	25	84.6	56	3.9	2	6.3	4	57.0	38	88.5	58	151.8	100
1933.....	17.0	8	41.3	20	141.3	67	5.5	2	5.9	3	58.3	28	146.8	69	210.9	100
1934.....	14.1	7	39.9	21	131.3	68	4.8	2	4.6	2	54.0	28	136.1	70	194.7	100
1935.....	14.7	6	47.9	19	179.5	71	5.2	2	5.4	2	62.6	25	184.7	73	252.7	100
1936.....	16.3	5	51.0	17	217.0	73	8.2	3	4.9	2	67.3	22	225.2	76	297.3	100
1937.....	12.6	5	38.9	15	202.5	76	7.4	3	4.8	2	51.5	19	209.9	79	266.2	100
1938.....	14.1	5	39.6	14	209.3	76	6.7	2	4.1	1	53.7	20	216.0	79	273.8	100
1939.....	16.2	4	49.9	14	278.6	77	9.1	3	5.8	2	66.1	18	287.7	80	359.6	100
1940.....	16.4	4	53.8	14	301.4	78	8.2	2	5.9	2	70.2	18	312.6	30	388.7	100

TABLE III—Distribution of Rayon Yarn Production by Denier Size in Percent

	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Total Fine Deniers (112 denier and finer).....	9.9	11.5	14.2	19.1	26.0	26.4	26.8	21.0	24.3	25.5	32.2	32.7	34.1
Total Medium Deniers (113–162 denier).....	74.0	72.9	71.7	69.0	64.8	62.8	59.5	62.1	61.7	60.4	53.9	52.4	52.9
Total Coarse Deniers (163 denier and coarser)...	16.1	15.6	14.1	11.9	9.2	10.8	13.7	16.9	14.0	14.1	13.9	14.9	13.0
Grand Total of All Deniers...	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Average Denier Spun.....	Data not avilable						135	140	136	134	129	124	123

the period of the last several years.

World production of rayon filament yarn in 1940 was practically unchanged from the 1939 level. During the last year, the United States kept its position as the leading rayon yarn producing country and increased its production, thus comprising 34% of the world's total. This is the first time, since the world rayon industry "came of age," that any one country has accounted for such a large share of the world's rayon yarn output. Rayon filament yarn, a "luxury" product, has found great favor in the United States.

NEW PRODUCTION HIGHS were established by both the filament yarn and staple fiber branches of the domestic industry, rayon filament yarn production in 1940 at 390,072,000 lb., being 19% greater than the previous record year of 1939. New high levels of rayon yarn production also were achieved by the several processes of manufacture. The 1940 production of rayon staple fiber at 81,098,000 lb. was 58% above 1939, the previous peak. (See Table I.)

In consumption, too, the domestic rayon industry set a new high in 1940. Thus the 1940 consumption of rayon totalled 487,800,000 lb., an increase of 6% over the previous record of 458,465,000 lb. consumed in 1939.

Filament rayon yarn consumption in 1940 at 388,729,000 lb. exceeded the former record made in 1939 by 8%. Both the viscose-cupra and the acetate branches of the industry reached new high shipment levels.

Rayon staple fiber available for consumption (domestic production plus imports for consumption) totalled 99,100,000 lb. in 1940, a figure essentially equal to the figure of 98,717,000 lb. set in 1939. However, these simple totals do not tell the full story. First, there was a significant increase of 58% in staple fiber production from 51,314,000 lb. in 1939 to 81,098,000 lb. in 1940. Second, there was a drastic decline of 62% in staple fiber imports from 1939 to 1940, the respective figures being 47,403,000 and 18,000,000 lb. A third factor resulted from the "war-scare" purchases of staple fiber by yarn spinners in the closing months of 1939, not used until 1940.

As compared with the previous year, rayon yarn consumption by principal trades during 1940 revealed no marked shifts *percentagewise* from one trade to another. Poundagewise, of course, the consumption of yarn by major markets in 1940 increased substantially over 1939. (See Table II.)

During 1940, the production trend toward finer denier yarns continued in the viscose-cupra, acetate, and total industry divisions of the yarn industry, as shown in the table below. Total industry data (Table III) also indicate that the increase in the fine denier yarn production has been almost entirely at the expense of the coarse denier sizes in 1940, the production of the medium deniers remaining relatively constant on a *percentage* basis. (See Table IV.)

TABLE IV—Basic Annual U. S. Rayon Data (in thousands of pounds; percentages in italics)

Year	RAYON FILAMENT YARN								RAYON STAPLE FIBER				
	Domestic Production					Total Domestic Shipments	Imports	Domestic Consumption	Exports	Domestic Production		Imports		Available for Consumption
	Viscose Cupra & Nitro		Acetate		Total									
1911	363	*100*	.....	....	363	*100*	315	1,800	2,115					
1912	1,111	*100*	.....	....	1,111	*100*	1,117	1,750	2,367					
1913	1,816	*100*	.....	....	1,816	*100*	1,566	2,430	3,996					
1914	2,422	*100*	.....	....	2,422	*100*	2,444	2,740	5,184					
1915	3,885	*100*	.....	....	3,885	*100*	4,107	2,450	6,557					
1916	5,778	*100*	.....	....	5,778	*100*	5,741	900	6,641					
1917	6,544	*100*	.....	....	6,544	*100*	6,429	370	6,799					
1918	5,846	*100*	.....	....	5,846	*100*	5,827	180	6,007					
1919	8,228	*99.4*	50	*0.6*	8,278	*100*	8,219	1,072	9,291					
1920	10,005	*98.8*	120	*1.2*	10,125	*100*	7,238	1,480	8,718					
1921	14,866	*99.2*	120	*0.8*	14,986	*100*	16,475	3,276	19,751					
1922	23,947	*99.5*	120	*0.5*	24,067	*100*	22,631	2,116	24,747					
1923	34,839	*99.7*	120	*0.3*	34,959	*100*	29,529	3,029	32,558					
1924	36,208	*99.7*	120	*0.3*	36,328	*100*	40,289	1,954	42,243					
1925	49,429	*96.8*	1,620	*3.2*	51,049	*100*	52,836	5,441	58,277	148				
1926	60,073	*95.8*	2,620	*4.2*	62,693	*100*	51,284	9,345	60,629	400				
1927	70,408	*93.2*	5,147	*6.8*	75,555	*100*	85,021	15,034	100,055	401				
1928	91,232	*93.8*	6,000	*6.2*	97,232	*100*	87,984	12,144	100,128	196	165	*45.2*	200	*54.8*	365 *100*
1929	112,954	*93.0*	8,445	*7.0*	121,399	*100*	116,410	15,055	131,465	223	500	*25.8*	1,436	*74.2*	1,936 *100*
1930	117,543	*92.3*	9,790	*7.7*	127,333	*100*	111,627	6,340	117,967	345	350	*40.4*	518	*59.6*	868 *100*
1931	135,249	*89.6*	15,630	*10.4*	150,879	*100*	155,556	1,804	157,360	314	880	*55.2*	715	*44.8*	1,595 *100*
1932	116,379	*86.4*	18,291	*13.6*	134,670	*100*	151,838	197	152,035	653	1,100	*33.4*	2,196	*66.6*	3,296 *100*
1933	172,402	*80.8*	41,096	*19.2*	213,498	*100*	210,949	934	211,883	1,110	2,100	*38.8*	3,320	*61.2*	5,420 *100*
1934	170,307	*81.8*	38,014	*18.2*	208,321	*100*	194,694	77	194,771	2,509	2,200	*90.9*	221	*9.1*	2,421 *100*
1935	202,010	*78.4*	55,547	*21.6*	257,557	*100*	252,650	26	252,676	2,219	4,600	*75.8*	1,461	*24.2*	6,061 *100*
1936	214,926	*77.4*	62,712	*22.6*	277,638	*100*	297,347	255	297,602	1,813	12,300	*49.2*	12,721	*50.8*	25,021 *100*
1937	239,316	*74.4*	82,365	*25.6*	321,681	*100*	266,202	872	267,074	1,397	20,244	*49.6*	20,614	*50.4*	40,858 *100*
1938	181,470	*70.4*	76,155	*29.6*	257,625	*100*	273,800	262	274,062	1,457	29,861	*56.2*	23,197	*43.8*	53,058 *100*
1939	231,283	*70.4*	97,342	*29.6*	328,625	*100*	359,572	176	359,748	1,879	51,314	*52.0*	47,403	*48.0*	98,717 *100*
								est.		est.			est.		
1940	257,124	*65.9*	132,947	*34.1*	390,072	*100*	388,684	45	388,729	1,530	81,098	*81.8*	18,000	*18.2*	99,100 *100*

United States production and imports of rayon staple fiber before 1928 were either nonexistent or nominal.

How Two Mills Meet Label Act

American Woolen and Sulloway Hosiery Mills solve wool-content designation

MEETING the physical requirements of the new Wool Labeling Act has become a confusing puzzle to many manufacturers. It seems necessary that from the time any fabricated wool product is shipped from its manufacturing source until it gets into the hands of the ultimate consumer, in piece goods, garments, or whatnot, it must carry a label naming the percentages of its wool and other fiber components, together with the name of manufacturer, distributor, garment house or retailer. The mechanics of producing and attaching acceptable labels or tags is a problem which each handler of a wool product is now trying to solve in the most economical possible way. American Woolen Co. and Sulloway Hosiery Mills have worked out systems to meet the needs of the situation as described below.

Retailers in most instances do not want to disclose their sources of supply to customers, nor do wholesalers want to disclose their sources to retailers. For a wholesaler or retailer to remove each tag and replace same with his own tag would be a tremendous task, complicated by the fact that various types of merchandise over a large number of departments require various types of information. If the mill or wholesaler agreed to put the name of his customer (wholesaler or retailer respectively) on the tag, there would at once be a different tag for each customer, a number to be multiplied by all the various fiber combinations which that particular mill happened to use.

Although the law does not actually go into effect until July 14, 1941, it is imperative in the very near future that all manufacturers and distributors of materials containing wool place suitable labels upon their products, so that when the curfew rings six months from now every one down to the retailer will be meeting the requirements of the law.

The American Woolen Co. has already adopted a piece-goods tag which on one side is similar to the tag previously used to identify pieces, styles and shipments. On the reverse, however, is a series of areas into which fiber percentage figures may be printed. These labels are of proper size to be used in a dial-set printing machine, the operator of which can set the machine for the desired fiber percentages and run as many tags as may be necessary for a particular set of warps, or to cover a prospective run on a certain specified construction. The machine for this printing job is one made by the Dennison Mfg. Co. The American Woolen tag is illustrated in Fig. 1. Fig. 2 shows a somewhat different form for a tag which may be handled on the same printing machine.

Label printing-and-pinning machines of the same make have lately been adopted by the Sulloway Hosiery Mills. The ticket made on this machine and shown in Fig. 3 is of application not only to hosiery, but also to underwear and knitted gloves. The necessary information is printed on the ticket and the ticket is attached to the merchandise in one operation. It is easy to change the name appearing upon the tag, as the slug from which that is printed may be taken out and replaced with one carrying another name. The fiber information may also be changed as frequently as necessary.

To meet the situation of a middleman who desires to eliminate the mill name and substitute his own or a retailer's name without the added cost of changing the complete tag, a tag with detachable coupon offers a solution. On this detachable coupon appears the name of the source which the distributor desires not to disclose, and the coupon may therefore be torn off by him. A code number may be printed upon the body of the tag so that if question arises regarding the merchandise the retailer can know at once what is its source. Also in the body of the tag is a blank space in which to stamp the name of the responsible distributor.

Another tag suitable for knitted outerwear carries not only the required fiber data, but also factual information such as is proving valuable in increasing consumer satisfaction with textile products. Any general information of use to the consumer may be printed on the tag at the first printing, and in the blank spaces, as shown in Fig. 4, may be imprinted the fiber data on such a machine as the dial-set machine previously noted. In this way any percentage figures upon any of the given fibers may be applied to the tag, and such tags supplied in whatever quantity the particular lot of merchandise calls for.

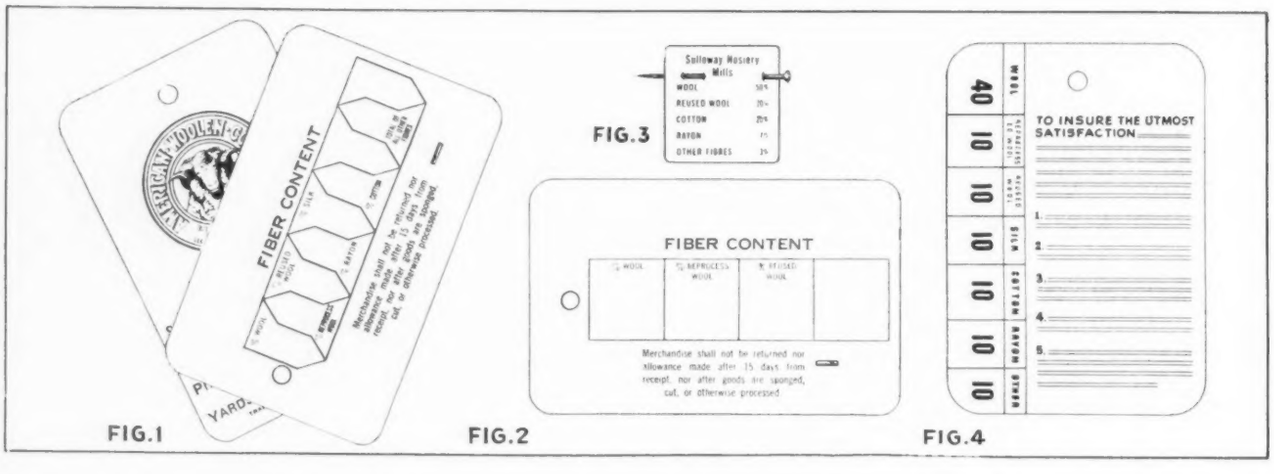


FIG.1 FIG.2 FIG.3 FIG.4

Factors That Influence Pebble

By GEORGE THOMAS

CREPE CONTROL

The soaking formula used in processing a rayon crepe yarn is only one of the determinants of the resulting pebble in the fabric; the outline below is an attempt to tabulate the major factors involved.

1. Number of filaments (same denier)
   a. Coarse pebble—few filaments
   b. Fine pebble—many filaments
2. Size of filaments (constant number of filaments)
   a. Coarse pebble—coarse filaments
   b. Fine pebble—fine filaments
   c. Smooth-surfaced filaments give more waves per inch than rough-surfaced filaments
3. Twist
   a. Coarse pebble—high twist (if yarn is not twisted beyond yield point or elastic limit)
   b. Fine pebble—low twist
4. Sley
   a. Coarse pebble—light sley and coarse yarns
   b. Fine pebble—heavy sley and fine yarns
5. Picks
   a. Coarse pebble—few picks; too few picks allow slipping
   b. Fine pebble—many picks
6. Layout
   a. Coarse pebble—greater number of picks with twist in same direction; 6x6 weave is rougher than 4x4, and 4x4 is rougher than 2x2
   b. Usually, cloth that shrinks from 47 in. reed to 20-28 in. boil-off has sufficient pebble when framed to 39 in.
7. Warp and warp size
   a. Coarse pebble—soft, flexible size
   b. Fine pebble—stiff, hard size
   c. Acetate warps are softer than viscose and produce better crepes
   d. Warp size should be of same nature as filling size and should boil off at same rate
   e. Both warp and filling size should provide yarn with an elastic coating to protect it from stretching
8. Tension
   a. No yarn should receive a tension that will stretch it beyond elastic limit
   b. All tensions for each operation must be held to close tolerances
   c. Within allowable limits, light tension provides fine pebble and heavy tension gives coarse pebble
9. Boil-off
   a. Coarse pebble—high temperatures and/or strong baths; too rapid raising of pebble may cause warp to slip, resulting in pin holes or elephant hide effect
   b. Fine pebble—weak bath and/or low temperature
10. Soaking materials
    a. Coarse pebble—more lubricant and less size
    b. Fine pebble—more size and less lubricant

Frequently, some of these items oppose each other, as when filling is soaked with a high-pebble formula and the goods are processed to give low pebble. In such cases it is difficult to predict the result. To reconcile all factors, it is advantageous to prepare a plan of action through all departments. Where goods are not processed completely in one organization, this policy should be followed even more religiously if claims and losses are to be avoided. When the designer or stylist sets up the fabric construction, notations indicating the type of pebble desired should go forward to the throwster, weaver, dyer, and finisher. Then all parties can cooperate toward the desired end.

This page from a throwster's notebook sets forth the elements of crepe control and gives a clear picture of those factors which influence pebble in rayon fabrics

Dermatitis Scare

Forces quick action by finishers and chemical companies to forestall claims

By WINN W. CHASE

Associate Editor, TEXTILE WORLD

RUMORS of an outbreak of dermatitis caused by use of certain of the newer finishing compounds received apparent confirmation last month when Dr. Louis Schwartz, medical director in charge of the Office of Dermatoses Investigations, U. S. Public Health Service, stated that "an outbreak of dermatitis is now occurring in the United States and Canada from fabrics finished with the new synthetic resin finishes." In the past, individual cases of dermatitis alleged to have been caused by contact with various dyes, chemicals, and even fibers have been noted at sporadic intervals. Now, with an official in the U. S. Public Health Service publicly making the statement quoted above, the textile finishers and the chemical manufacturers have no alternative but to make a thorough investigation definitely to determine whether or not any of the synthetic resins or other new finishing compounds are more dangerous than those formerly employed. Otherwise, they may be faced by numerous and costly claims.

Previous to his speech, Jan. 14, at the annual convention of the National Retail Dry Goods Association, Doctor Schwartz and others had reported (*Journal of the American Medical Association*, Sept. 14, 1940) the results of an investigation which began last March of several cases of dermatitis. According to Doctor Schwartz, the first cases investigated were all traced to one particular finish which has been withdrawn from the market for use on wearing apparel. "Despite this," he said in his most recent address, "a large number of cases from finishes on fabrics are continuing to occur and we have found that many of the other new synthetic resin finishes are possible sources of dermatitis."

Reports from other sources are contradictory and inconclusive. For example, executives of three of the larger department stores in New York assert that they are receiving no more than the normal number of complaints from customers of dermatitis allegedly caused by wearing apparel. On the other hand, two well-known testing laboratories state that they are now having submitted to them for examination as possible causes of dermatitis an increasing number of apparel fabrics.

CAUSES OF DERMATITIS. At present there probably is no one who is an authority on both dermatitis and textile chemistry and finishing. Hence, the following brief discussion of possible causes of dermatitis has been compiled from standard reference books and other published information on dermatology and has been checked by a competent dermatologist. No attempt has been made to discuss the complex problem of textile chemicals and dermatitis.

Dermatitis may be caused by contact with a primary irritant, a secondary sensitizer, a physical irritant, or any substance to which an individual is allergic. Among the materials which are harmless to most people, but which may affect other people who have an allergy to one or more of those substances are included: silk, wool, certain synthetic fibers, various dyes, some types of starch, etc. The number of people who are allergic to any one of these substances is very small—probably only a fraction of one percent of the population.

Primary irritants are materials which will cause dermatitis upon contact with the normal skin. Strong acids and alkalis, various metallic salts, formaldehyde, and many other chemicals act as primary irritants. On the average, dermatitis due to contact with wearing apparel containing a primary irritant begins after about a week of wear of the garment. The irritation usually is confined to the skin areas coming in contact with the garment; in some cases, however, the erruption may become generalized and may be accompanied by increase in body temperature and/or other symptoms. All primary irritants do not act alike, and the action of a given primary irritant varies with its concentration; pH value, and its toxicity to normal tissue.

One method commonly employed for determining whether or not a specific finishing agent is a primary irritant is to apply a patch of fabric containing the compound in the concentration and pH resulting in the finish to the skin of a number of persons (or rabbits); after several days, the patch is removed and the skin examined to see whether it has been affected. Another method consists of injecting between the layers of skin of a rabbit a solution or suspension of the finishing compound; the reaction after 30 min. or more permits a skilled dermatologist to determine whether the compound at the concentration and pH tested contains a primary irritant.

Dermatitis caused by contact with secondary sensitizers usually develops after a longer period of exposure than with primary irritants, and during that period the individual has no skin irritation or eruption. However, once a person becomes sensitized to a given substance, dermatitis may appear quickly on contact with minute amounts of the substance. It is known that all human beings can develop sensitivity to some things under some circumstances.

Among substances acting as secondary sensitizers are picric acid, rosin, certain dyes, and various chemicals used in textile processing. By means of extensive patch tests on human beings and by intradermal injections using rabbits, it is possible to get an indication as to the presence of irritants which may sensitize a person.

INVESTIGATION NECESSARY. The conversations and correspondence which the writer has had with executives of department stores, finishing plants, textile testing laboratories, and chemical companies do not substantiate any statement implying that there is now occurring an outbreak of dermatitis from wearing apparel which is affecting a considerable percentage of the wearers. Nevertheless, in view of the assertion made last month by Doctor Schwartz, it is imperative that the textile finishers and the chemical manufacturers institute a prompt, but thorough, investigation of the matter. This is not a problem which can be solved by individual companies, but demands concerted action. The recently formed "dermatitis committee" comprising finishers, chemical manufacturers, and others should hasten to establish standard methods for testing textile finishing agents to determine whether or not they are possible causes of dermatitis and for classifying all compounds found to be either primary irritants or secondary sensitizers in such a way as to show what percentage of the people coming in contact with them may be affected. Tests of individual finishing compounds will then reveal which are safe to use and which, if any, are unsafe.

FIXING KNITTING MACHINES

FULL-FASHIONED MACHINES—Chapter VII. Slurcams and Boxes

By WALTER A. SIMOND

THE SLURCAM MOTION should not be accelerated or decelerated during the kinking of the yarn, since it is necessary to keep an even tension on the yarn or thread while it is being kinked. The condition of the friction rod, friction boxes, and Coulier motion may cause uneven movement of the slurcams; and this will be discussed in subsequent chapters. In the present installment on slurcams and boxes the material inclosed in quotation marks was abstracted from the February and March-April, 1934, issues of the *Reading Record* and from the *Knitting Machine Lectures* of Wyomissing Polytechnic Institute.

"The desired movement of the slurcams can be hindered if the slurcam box slides too tightly on the guide bar. In some cases foreign matter works its way between the slurcam box and the guide bar and thus hinders the proper movement of the Coulier motion, causing vibration of the long rocker arm as it drives the slurcam box bar. This vibration is translated to the sinkers by the consequent jerky movement of the slurcam. If such a condition appears to exist, disconnect the slurcam boxes from the connecting bar and test them for freedom of movement along the guide bar. See that the box moves freely along the guide bar before again bolting it to the connecting bar.

"Uneven movement of the slurcam boxes is sometimes caused by irregularities along the sides of the guide bar. This bar, *18*, Fig. F13, should be tested for straightness on sides *B* and *C* with a straightedge and all high spots removed so that these sides will again present an absolutely true horizontal line of travel for the slurcam boxes. If any of the slurcam boxes have more than 0.006 in. clearance at these points, they should be replaced. Too much clearance at this point will cause the box to be lifted up or forced out of line with the jacks, in many cases causing the box to freeze on the guide bar and result in a machine smash.

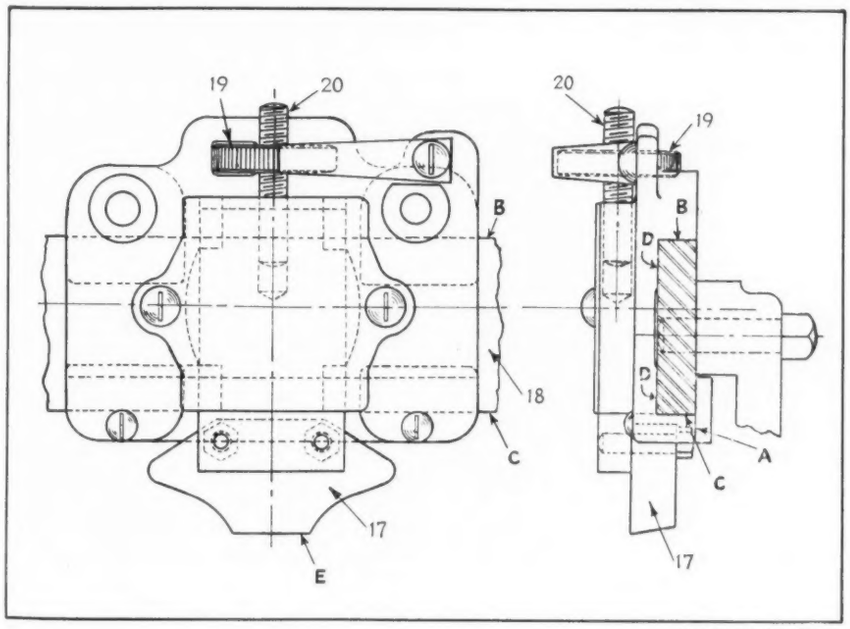
"If it is necessary to install new slurcam boxes, they should be fitted in the following manner: File the surfaces *B* and *C* of the slurcam box until the box slides freely when mounted on the bar and with not more than 0.002 in. clearance on the sides. The slurcam box must be fitted on the guide bar in such a way that surface *D* lies perfectly flat on the guide bar. Then rub the box in on the bar with powdered pumice stone until a good bearing is obtained. After this has been done, grind the slurcam box on surface *A* so that an 0.008-in. feeler gage can be inserted between the steel liner and the guide bar. Run-in the new boxes with a mixture of ground pumice stone and oil. They will usually be worn in enough when the Coulier cam has sufficient momentum to make one revolution after the power has been cut off with the magnetic brake removed from action.

"These boxes should now be removed and boxes and guide bar thoroughly cleaned with kerosene oil. Slurcam boxes should then be replaced and the guide bar lubricated. Since the clearance between the slurcam-box bar and the slurcam boxes is only from 0.002 to 0.004 in., a very high grade of oil must be used to minimize the friction between these parts."

On account of the small allowable clearance—approximately 0.005 in.—between the vergeplate and the front of the sinker butts, it sometimes happens that a broken narrowing point, or other small object accidentally dropped in back of the vergeplate, will cause the slurcam to be forced back and burst the back off of the slurcam box. A good method of repairing such a break is to remove the slurcam box from the machine and have the broken part welded in place and refinished. Also, there is a quick repair part made which can be bolted under the slurcam-box, clamping screws to furnish a backing for the knurled adjusting nut.

"To prevent the appearance of sinker and needle lines in the fabric, it is absolutely essential to make sure that the slurcams are accurately aligned with the sinker head and vergeplate (folding bar). Any unevenness in this setting will result in the appearance of irregularly shaped loops.

"Sinker lines can often be the result of a worn or grooved slurcam. The slurcam should be tested for uniformity of wear and examined for nicks or grooves cut in the working surface. Such irregularities will prevent an even forward movement of the sinkers and will consequently result in uneven sinker loops. After such slurcams have been replaced, inspect the jack bed carefully for the ease of operation. If the jacks have a tendency to stick, the new slurcam will



Textile Machine Works

Fig. F13. Slurcam, box, and guide

be worn and nicked in a comparatively short time, thus quickly nullifying the benefits derived from such replacement." The jack bed should be cleaned according to the instructions given in the December issue of TEXTILE WORLD.

Since the slurcam angle gradually increases to draw the full amount of yarn required for each loop before the succeeding sinker comes in contact with the yarn, it is difficult to refinish these cams after they become nicked. Moreover, many of these cams are surface hardened, and although they have a life of eight to ten years, they will be soft after grinding. Therefore, it is best to replace them when they become worn. If it is necessary to refinish a slurcam for temporary use, a good method is to make a thin steel templet to fit a good slurcam, and then grind and refinish to the templet. The templet should be long enough to reach across the face of the cam and one slurring angle, and it may be reversed to fit the opposite angle. The face of the cam should be finished first exactly square to the edge of the adjusting slide; then the templet is held against it for the correct form of the angle.

"The face of the cam is relieved slightly, about 0.0015 in. except for about ⅛ in. at each side, where it remains straight. The width must be such that at least two sinkers are held in their forward position. This relief will decrease the friction between the slurcams and the jacks as the slurcam passes over them when moving forward. The short distance at each side of the face will also hold the sinker in its forward position and prevent it from rebounding or flying back when it strikes the vergeplate."

In fastening the slurcam boxes to the connecting bar, care should be taken to keep them in contact with the front of the box guide bar, in order to have the face of the slurcam exactly parallel with the knitting heads, and prevent slur-galling and washboard knitting.

There is a slight clearance in the slurcam box for the adjusting nut. When the slurcam is moved forward, the adjusting nut rests against the back of the box; but when the adjusting nut is moved in the opposite direction, the slurcam should be pushed back manually so the nut will be firmly supported by the back of the box to prevent it from slipping back later and changing the length of the fabric. When the length of a stocking is being changed, the width of the fabric on the machine has an important bearing as regards the length of a stocking after it is finished, because quite often the draw-off will stretch the stocking to make it appear to have the correct length while it lacks width.

[In the next installment of this series, Mr. Simond will begin a discussion of the catchbar. In our January issue, the sketch captioned Fig. 7 was not the proper one for showing setting of spring bars, and the correct illustration will appear in March.—*Editor.*]

CIRCULAR MACHINES—Chapter VIII. Cylinders and Walls

By JULIAN W. HUGHES

SOME KNITTING MACHINES in use today have inserted needle-cylinder walls; others do not have inserted walls. Typical of the latter type is the Banner machine. The cylinders of these machines are accurately milled and balanced, and the slots in which the needles work up and down are cut by the machine builders according to the gage of hosiery to be knit. If the walls of these machines become damaged—something which seldom happens—the machine builders have special tools for repairing them. Accordingly, fixers of this type of machine do not have to do anything in the way of lining up of cylinder walls or keeping the cylinder balanced, unless the machine has been running for many years and the cylinder is worn unevenly.

On machines which have inserted cylinder walls, the walls are securely soldered to the cylinder, evenly spaced, and accurately aligned when the machine leaves the factory. If the slots, or spaces between the walls are kept reasonably clean and well lubricated with good needle oil, and the cams are kept in good running condition, the cylinders will give no trouble and will outlast the machine.

Unfortunately, such ideal conditions do not always exist in the hosiery mill. For example, in grinding cams, some fixers have a tendency to use too much pressure. This causes the metal

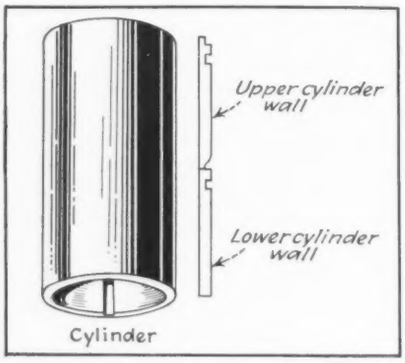


Fig. C13. Diagram of cylinder and detached walls of Scott & Williams machine

to heat and eventually to crack or nick along the face. Cams in such condition bend needle butts, causing jam-ups, which, in turn, loosen or bend the walls.

A sketch of the cylinder and detached walls of a Scott & Williams machine is shown in Fig. C13. It will be noted that there are two walls—an upper wall and a lower wall. Each is recessed for endless coil spring bands—two being used on the upper walls, and one on the lower walls. The pattern jacks work in the slots afforded by the lower walls, which are subject to less strain; and the needles work in the slots between the upper walls. Inasmuch as undue pressure or shock from the needles is the usual cause of damaged cylinder walls, this division of walls tends to localize the damage in case of needle jams. The object of the spring bands is to keep the needles in the slots. It is important, therefore, to check these bands periodically and replace them if they have lost their strength.

Jam-ups or smashes which cause damage to cylinder walls are due almost invariably to human error. A knitter may make a mistake in setting pattern chains or in threading a machine; he may not discover until it is too late that a machine is running with bad needles; he may attempt to make some adjustment to the machine which he is not competent to do and which should be left to the fixer.

Again, a careless fixer may fail to keep a machine in perfect time; he may not keep the cams tight and the cam faces polished; he may fail to keep the up-picks working freely and properly engaging the needle butts.

The best thing to do when a cylinder is damaged is to send it to the machine builder for rewalling. There are times, however, when this is not feasible, and the fixer must then insert new walls.

[The procedure recommended for replacing broken walls will be described in the next installment of this series. —*Editor.*]

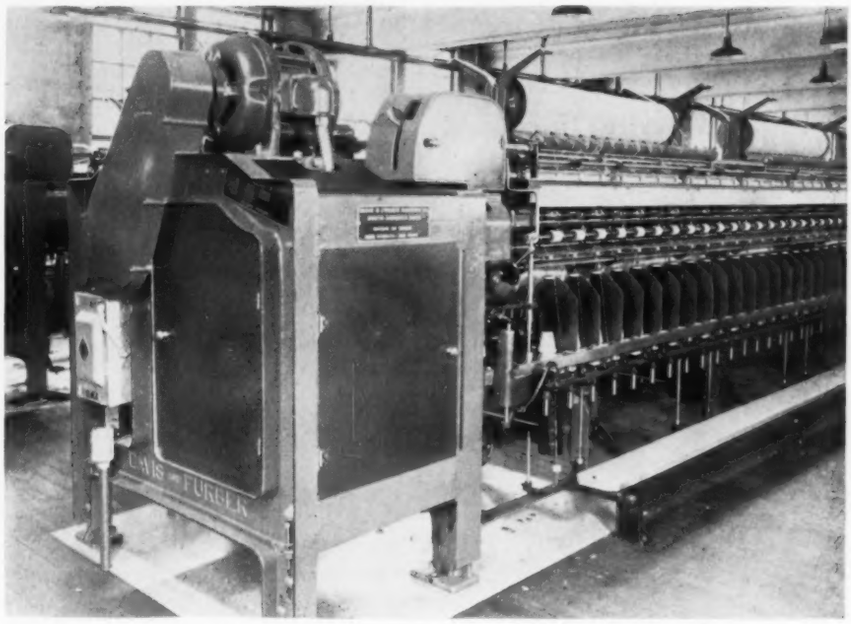
TEXTILE EQUIPMENT NEWS

Woolen Ring Spinning Frame

Davis & Furber Machine Co., North Andover, Mass., has announced a new woolen spinning frame said to embody several features making possible advantages not obtained with former models. For instance, roping spools are nearer spinners, thus making it easier to change spools, find broken ends, and do any other work which involves reaching the spools. Use of double fluted front rolls is said to simplify removal and replacement of press rolls, to result in rolls staying clean longer, and to reduce end breakage, particularly on fine or burry yarns.

To improve working conditions of spinners, bobbins and ring rails have been raised to a more convenient position; less bending over is required, and hence operative fatigue is decreased. In addition, step rails and cross ties have been raised, with the result that cleaning and sweeping under frames is simplified and made easier. Also, the construction of the new frames is such that it is easier to reach into the machines and to wipe or brush off all parts.

The new machines are narrower in width, thus still further reducing the amount of floor space required, and making possible wider alleys between machines. Bobbins from the frames are 12x4½ to 4¾ in. in size, and hold 16 to 24 oz. of yarn. The manufacturers recommend their use for spinning wool, staple rayon, and reworked wools, for warp, knitting, and filling yarns. The latter, of course, must subsequently be rewound on to shuttle bobbins.



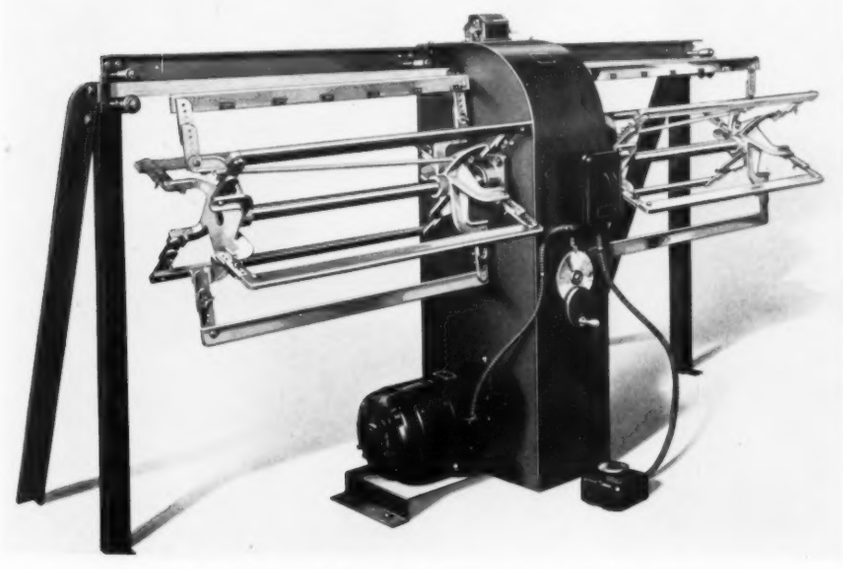
Woolen Ring Spinning Frame (Davis & Furber)

Double-End Skein Reel

For reeling fine-count yarns, Fidelity Machine Co., 3908 Frankford Ave., Philadelphia, has announced a double-end, twin-unit skein reeling machine. Essentially, the machine is similar to the single-end type announced about a year ago, with the exception that reels project from both sides of the driving mechanism, as shown in the accompanying illustration.

One operative takes care of two of the machines, and their capacity is so arranged that winding time is practically equivalent to doffing time. Hence, the operative is continuously occupied with doffing. During doffing of one machine, the other continues winding without attention. Doffing is speeded up by the fact that each reel has a free end permitting unobstructed removal of skeins. A collapsible spoke on each reel relieves tension on wound skeins and facilitates removal.

Each reel on the double-end machine is 31 in. long and accommodates 6 skeins. Reels are adjustable to several different sizes of skeins, from 33 in. upward. A counting device automatically stops the reel when the prescribed length has been wound.



Double-end skein reeling machine (Fidelity)

Narrow-Fabric Shuttle Springs

To cover the shortage of imported shuttle springs for ribbon, label, and narrow fabric weaving, domestically manufactured springs said to be superior to the imported ones have been announced by Jacob Walder, Paterson, N. J. Springs are supplied in either brass or steel wire and are fitted with

metal eyes of various colors to distinguish different tensions. Metal eyes are said to eliminate the breakage problem, and the different color finishes make the various tensions readily recognizable. Method of manufacture assures an even and uniform tension for each size, it is stated.

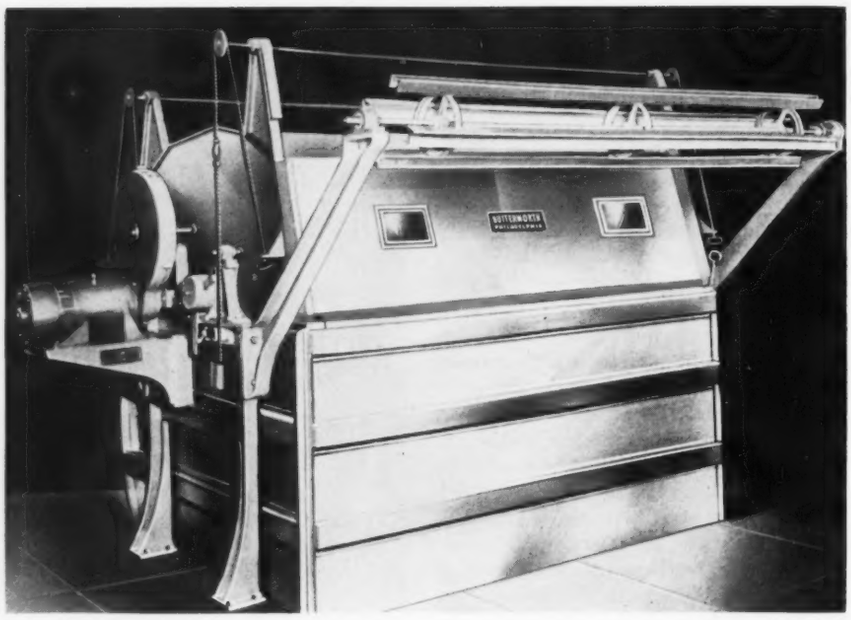
Knitting-Weaving Machine

A combination knitting and weaving machine, called Kayloom, has been introduced by Robert Reiner, Inc., Weehawken, N. J. The machine employs warp and filling yarns, as in weaving, but instead of interlacing the two systems of yarns it ties a knot around their intersections, using a knitting stitch. Depending upon the selected inter-relation of the filling, the weaving-warp, and the knitting warp, fabrics can be made to resemble either woven or knit goods, it is said, but the machine is designed to produce goods different in appearance and character from either woven or knit goods. One advantage claimed is that stretch in goods can be limited or eliminated.

Products of the machine can be open and porous and yet remain firm and free from slippage, it is stated. Pattern control is said to permit wide variations in design, making possible the formation of stripes, checks, or plaids.

The standard 128-in. machine will weave a single width of 120 in., two widths of 60 in., etc., down to sixty 1-in. widths. Regardless of the number of widths woven, all have fast selvages.

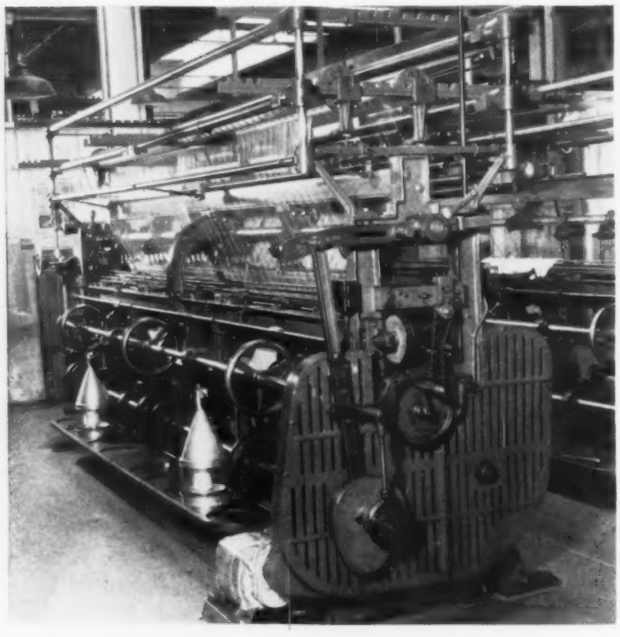
No warp weights are used, the warps feeding under low tension, and warp breakage is practically eliminated, it is alleged. Filling running from cones, and elimination of shuttles, are said to lower costs and increase production. Warp and filling stop-motions can be applied, if desired.



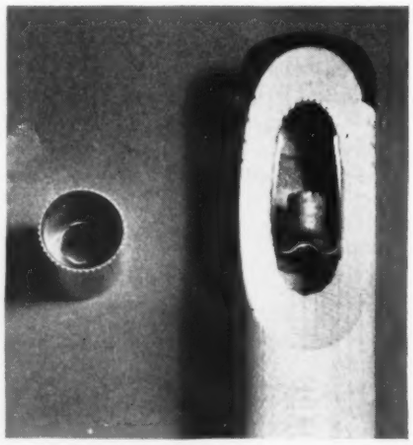
Stainless-steel reel dye kettle (Butterworth)

Reel Dye Kettle

Piece dyeing of woolen and cotton fabrics is said to be facilitated by use of a reel dye kettle announced recently by H. W. Butterworth & Sons Co., 2417 E. York St., Philadelphia. The kettle is constructed of stainless steel, said to make possible quicker rinsing and cutting down time between lots. It features a barrel-type reel, glass windows which make possible inspection of cloth during dyeing, and a suction device which operates when the door is opened, to prevent steam from billowing out into the room. Unloading is assisted by an unloading device which has an automatic stop motion. Drive of the kettle is by a fully inclosed gear reduction motor.



Knitting loom (Robert Reiner)



Top bushing for large-package bobbins (Textile Shield)

Metal Top Bushing

Designed to eliminate vibration of bobbins used in large-package spinning, a metal top bushing has been developed by Textile Shield Co., Lawrence, Mass. For insertion of the bushing it is necessary only to bore a straight hole through the bobbin lengthwise; inside boring of the bobbin at the top is eliminated. This method of

boring is said to make the bobbins as much as 15 lb. lighter per 1,000.

As shown in the accompanying photograph of a cut-away bobbin, after boring the metal bushing is inserted in the top of the bobbin. Its serrated edge forms small grooves in the wood which prevent movement of the bushing once it is in position. A coat of shellac adds further to the tightness of the joining. Use of these bushings, it is stated, minimizes importance of expansion or contraction of the bobbin, since the bushing remains tightly in position regardless of such changes, and the fit between bushing and spindle is not disturbed. A further advantage claimed is that these bushings eliminate trouble caused by wearing of the tops of spindles.

The manufacturers point out that, as the upper bushing is inserted before final cutting down of the bobbin, the outside of the bobbin is necessarily concentric with the bushing; also, as the bushing is made of metal, it cannot get pushed out of proper position.

Return Air Condenser

For use in conjunction with flock removal systems on nappers, shears, and pickers, E. H. Allen Co., 22 Dorrance St., Boston, has developed a return air condenser to take the place of the usual dust collector or bin house. The machine is designed to clean flock-laden air in two stages. The air stream first passes through a revolving screen for removal of the flocks. The screen permits air and light dust to pass on through; it requires no mechanical doffer or brushes, but is said to be cleaned by balanced air pressure and directional air currents within the housing. From the screen, air and dust pass along to a series of filter bags designed to catch the dust and return the filtered air to the room without appreciable loss of heat or humidity.

The filter bags and the stock storage bin under the screen must be cleaned periodically. The only moving part of the system, the revolving screen, can be driven by a fractional horsepower motor, it is stated.

Rayon Spinning Machine

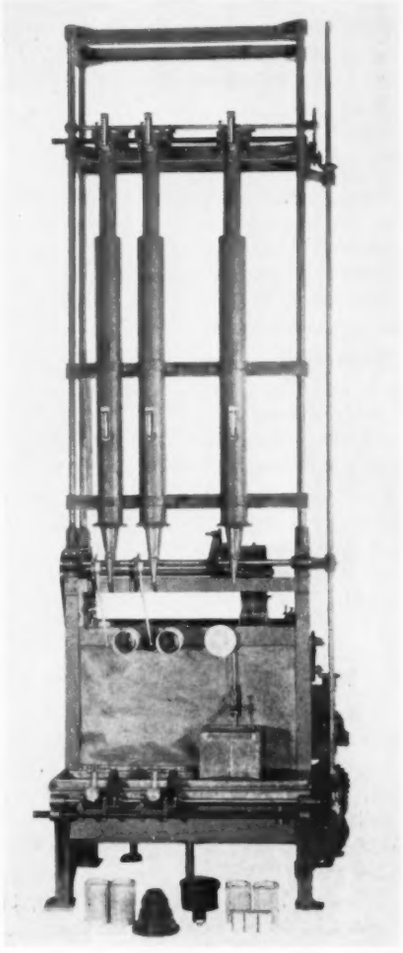
A new laboratory spinning machine recently announced by Wicaco Machine Co., Stenton Ave. and Louden St., Philadelphia, is said to have many controllable and versatile features which make it suitable for use on all systems of spinning rayon and other new synthetic filaments and fibers. It has been designed particularly for use by laboratory chemists and technicians.

The lower portion of the machine is for wet spinning, and consists of two pumps which meter the viscose through hard rubber filters and glass goose necks and through spinnerets into an acid coagulating trough. Filaments are wound either on aluminum bobbins by the bobbin system or into spinning buckets. The lead-covered acid tank is fed by gravity. This wet spinning unit can be used for spinning either viscose or cuprammonium rayon.

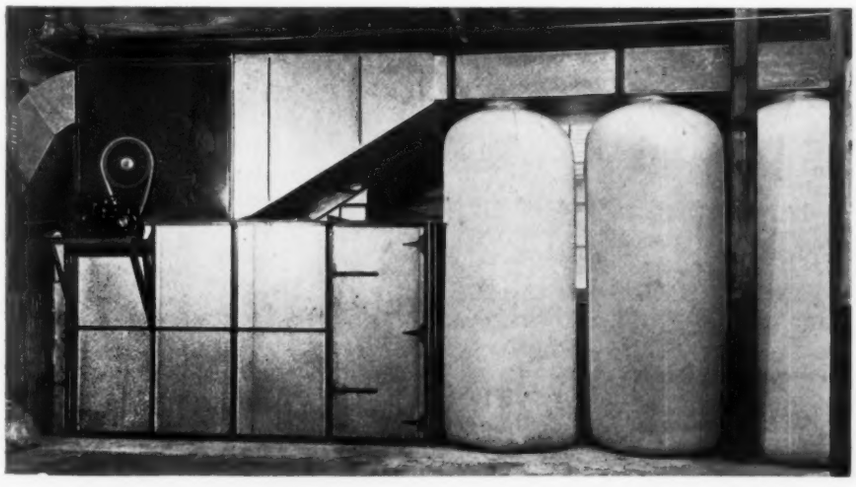
Wet spinning pumps have a capacity of 1 c.c. per revolution; pump speed can be varied to meet requirements. As bobbins build up, speed is decreased to maintain uniform peripheral winding speed; change gears permit a wide range of speeds. As a speed compensator, the machine utilizes an automatically actuated Reeves variable-speed unit, mounted horizontally. Rocker arms, which guide filaments on bobbins, are controlled by two cams actuated from a planetary gear box mounted just above the Reeves drive.

For twisting yarns, the spindle and bucket are replaced by a long spindle that carries a wooden spool or bobbin. A traveler and ring attached to the lower part of the variable-speed traverse rod is carried along the length of the spool by the vertical reciprocating action of the slide bar.

For dry spinning, the upper part of the machine is used. Acetate solution is forced through the upper mass line, metered through the pumps and fed directly into brass goose necks to which are attached brass filters and spinnerets. Solvent fumes are collected through a large pipe-threaded hole in top and back of each tube; filaments are guided through aluminum double doors at the bottom of each tube and can be wound on perforated bobbins or around a Godet wheel and on a spool.



Laboratory rayon spinner (Wicaco)



Return air condenser (Allen)

Useful Accessories For Textile Mills

Electronic level control of boiler feedwater, tank condensate, and many other fluids and powders is the purpose of a mechanism being introduced by Photoswitch, Inc., Cambridge, Mass. Other products announced by this company in recent months include an elec-

tronic pilot switch said to give positive stop-motion control on looms, warpers, and winders; and an electric-eye smoke alarm and densometer for low-cost control of combustion conditions in power plants.

A porosity tester, which appears to have possibilities for testing textile fabrics, has been announced by B. F. Goodrich Co., Akron, Ohio; primary purpose for which the device was developed is indicating rate of air passage through latex sponge products.

Fluorescent lamps in several new sizes and types are being marketed by General Electric Co., Nela Park, Cleveland. Included are 100- and 14-watt daylight lamps; soft-white lamps in 14-, 15-, 20-, 30-, and 40-watt sizes; and a 6-watt, 9-in. lamp.

Lubrication of ball and roller bearings operating at temperatures from 0° to 500° F. is the purpose of a new product known as Mased Lubricant No. 177, offered by Borne Scrymser Co., 17 Battery Place, New York.

Two circuit breakers have been announced by Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Type DH, a De-ion air circuit breaker, is available in ratings from 100,000 to 250,000 kva. interrupting capacity; 600, 1,200 and 2,000 amp.; for operation on 2,500 and 5,000 volts, three phase, 60 cycle a.c. New Quicklag breaker features, combined in a single unit, cooperative thermal and magnetic trip action; is said to assure high-speed tripping on heavy overloads, yet give time-delay necessary to pass momentary overloads.

Dry cleaning of wooden floors rapidly and economically is the aim of Model K machine brought out by G. H. Tennant Co., Minneapolis, Minn.; the machine, which utilizes a revolving steel-wool cylinder, is said to remove lubricating oil, dirt, and heavy spillage.

Fluorescent equipment consisting of an improved Model HF-100 reflector which comes equipped with two 40-watt fluorescent lamps and is corrected for power factor and stroboscopic effect; a 200-watt Model C-205 fluorescent lighting fixture which is equipped with four 40-watt fluorescent lamps; and an improved Mirastat starter for fluorescent lamps in which it is claimed sputtering is eliminated, blackening at the ends of lamps retarded, lamp life increased, and starting and re-starting accurately timed; has been announced by Hygrade Sylvania Corp., Salem, Mass.

A variable speed test rig is being furnished by Link-Belt Co., 307 N. Michigan Ave., Chicago; testing of generators, governors, pumps, sewing machines, bearings, and other equipment for true-running, efficient functioning, etc., can be accomplished with the device, which combines a basic variable-speed unit and an adjustable mounting bracket.

Recycling controller for attachment to meters controlling flow of water in automatic cycles is a recent development of Permutit Co., 330 W. 42nd St., New York.

Photoelectric relay for counting, sorting, weighing, measuring, controlling, signalling, inspecting, and regulating under a variety of conditions is being offered by General Electric Co., Schenectady, N. Y.; it operates at speeds up to 150 interruptions per min., and has a contact rating of 10 amp. at 115 volts, a.c.

For corrosion control of boiler systems a sensitive dissolved-oxygen recorder has been announced by Cambridge Instrument Co., Grand Central Terminal, New York. It is said to be automatic and to provide a continuous indication and record of dissolved oxygen entering the boiler.

New Dyes and Chemicals

Eastman Acetate Dyes

Tennessee Eastman Corp., 10 East 40th St., New York, has announced its entry into the acetate dye manufacturing field and has introduced a complete line of acetate colors, known as Eastone dyes. Particularly featured in the new line is Eastone Blue BB, a gas-fast blue dye. Eastone Blue BB is said to provide a complete range of blue tones, from the deepest shades to light pastel tints, with a freedom from gas or atmospheric fading; no tendency to turn pink or fade off-hue under severe light conditions; and exceptional fastness to washing, dry-cleaning, ironing, crocking, and discoloring from perspiration. Use of Eastone dyes will not be confined to Eastman acetate rayon, but will be offered for application to all brands of acetate rayon.

Mildew Preventive

Development of a new mold and mildew preventive is announced by Pfaltz & Bauer, Inc., Empire State Bldg., New York. This product, known as Moldol, is recommended for incorporation in warp sizing compounds and in finishing solutions. It is said to be relatively non-poisonous, practically odorless, only slightly irritating, and to have no effect on the color of dyed or printed textiles. Due to its high efficiency, not more than 0.1% is required to obtain the desired effect.

Synthetic Detergent

Development of a new synthetic detergent is announced by Quaker Chemical Products Corp., Conshohocken, Pa. This product, known as Dianol D, is a combination of sulphonated compounds and high-molecular-weight aldehyde condensates. It is said to possess excellent detergent properties combined with good wetting, leveling, and penetrating action. Other properties cited include high stability to continuous boiling and to acid, alkalis, acid salts, and lime base salts; it is neutral in solution. It is stated that Dianol D is equally satisfactory for use on viscose and acetate rayons, and silk, wool, and cotton fabrics; also that it is particularly desirable for soaping off printed goods, removing the printing paste with a minimum of base color stripping, and producing clear, sharp prints, and a soft hand which obviates use of any additional softener.

Skin Protective Agent

For protecting the skin of workers where perspiration of the hands is injurious to either the workers or products being handled, Milburn Co., Detroit, Mich., has developed a new compound, known as Ply No. 9. The product is offered in the form of a colorless solution. The worker dips his hands into it and permits the moisture to dry on his hands. As it dries, Ply No. 9 forms a thin, invisible film. Clinical experiments are said to have shown that the compound causes a rapid drop in the perspiration accumulated on the surface of the skin, but to be without detrimental effect to the body. In the textile industry, use of the product is recommended for preventing skin irritation which may be caused by certain dyes and chemicals and for preventing damage to fabrics from perspiration of the hands.

General Dyes

General Dyestuff Corp. announces the following new products: Para Brown RBA Extra Conc., a direct dye which produces full shades of reddish brown when coupled with Nitrazol CF Extra; dyeings are of good fastness to water, perspiration, hot-pressing, and washing,

ATWOOD

Picture this big, capable, thoroughly modern Atwood "5B" in operation on your throwing room floor. Make a mental comparison between this and old style doubler-twisters. You need little imagination to realize how far it will go toward solving today's silk, rayon or combination yarn production problems.

Operating Advantages include:

Better and bigger package production—improved ring rail construction, each side independent, and precision-fitted lifter rods assure smoothest traverse operation up to 8½". Rings, rigidly mounted on the rail, any diameter up to 4¾".

More accurate twist — resulting from nicely balanced balloon and smoothness of traveler action; belt tension is automatically and accurately maintained by the three-point ball bearing motor mounting and precise clock-type spring take-up.

Greater operating efficiency—distance across spindle centers is greater without increase in over-all width. Tensions, drop wires, feed rolls, centering eyes and spindles are arranged for greater operating convenience. Starting up is easier. No foot treadles.

Rugged construction all around — copious use of ball and roller bearings; constant-lubrication, self-contained twist unit; both ends totally enclosed but readily accessible; full length, rigidly mounted separators — everything about this machine capable of meeting today's heaviest package and production demands.

For the whole story about the new Atwood "5B", Model 10, or its equally up-to-date companion, the new Atwood Twister, Model 110, get in touch with

THE ATWOOD MACHINE CO.

STONINGTON, CONN., U. S. A.

Sales Offices: WILKES BARRE • CHARLOTTE • LOS ANGELES

and can be discharged with Rongalite C.

Rapidogen Navy Blue FFR, a Rapidogen color producing navy shades which are brighter and redder than those obtainable with other dyes of this class.

Palatine Fast Blue GGNA-CF, an acid dye which possesses fastness properties approaching closely those of the chrome colors; dyeings on either a wool or silk ground can be discharged with Rongalite C.

Katigen Olive GG-CF, a sulphur color yielding dyeings of good fastness to washing and very good fastness to light; it is suitable for dyeing materials which are to be rubberized.

Benzoform Green GA, a direct dye which, when aftertreated with formaldehyde and acetic acid and given a slight soaping, produces dyeings of comparatively good fastness to washing, fresh and salt water, and perspiration; it can be discharged to a good white with either neutral or alkaline pastes.

Benzoform Blue Green BA Conc., a direct color, which when aftertreated with formaldehyde and acetic acid, produces fairly bright, very bluish shades of green of comparatively good fastness to washing, water, and perspiration; dyeings are dischargeable to a clear white with either a neutral or an alkaline Rongalite C paste.

New Publications

Selling Engineered Products

SALES ENGINEERING, by Bernard Lester; John Wiley & Sons, Inc., New York; $2.00.

This book gives how-to information on selling equipment and services which require engineering skill in their selection, application, and use. It offers in simple terms the principles of sales engineering; indicates the importance of the work; and suggests the opportunities and rewards available.

The author has spent many years selling industrial equipment and has trained others to sell it. His book is neither highly theoretical nor high pressure, but steers a course between these extremes to give the results of actual field experience.

Welding Fundamentals

LESSONS IN ARC WELDING; Lincoln Electric Co., Cleveland; $0.50.

Lessons in Arc Welding puts into book form the substance of the arc welding course conducted by the publishers. Its aim is to present concisely fundamentals of welding, to enable operators to use the process successfully and economically.

On Cotton-Yarn Strength Tests

AN IMPROVED METHOD FOR CONVERTING AN OBSERVED SKEIN STRENGTH OF COTTON YARN TO THE STRENGTH OF A SPECIFIED YARN COUNT; by Malcolm E. Campbell; Circular No. 413 of U. S. Dept. of Agriculture; available from Supt. of Documents, Washington, D. C.; Price 5c.

Results of experimental spinning tests and a study of available literature inidicate a discrepancy between current practice in "correcting" results of yarn spinning tests. A formula based on results of more than 70,000 skein tests is presented; the author states that by its use yarn strengths can be converted to those for specified sizes with due regard to the true relations of skein strength to size.

America Must Decide — Now!

AMERICAN BUSINESS IN A CHANGING WORLD, by A. W. Zelomek and R. C. Shook; Whittlesey House, New York; $2.50

We have all been asking—as if suddenly awakened from a long sleep: "What has *really* happened in our world that it seems to be tumbling and stumbling all around us?" "What must America do to save herself?" Into this hour of excited turmoil comes a bold, realistic book to answer: "*Think*, America! . . . You *must* consider the world problems from which you've been hiding, behind the skirts of a phantom —'isolation'!"

Expertly, the authors of "American Business In A Changing World" trace for us 25 years of political and economic trends in Europe, America and the world. In a realistic manner, they estimate our position in relation to the present war, its causes and effects—regardless of who wins the military victory. Aid to Britain and other steps we must take immediately; the postwar problems we shall face with a devastated world at our feet; our relations with South America; what we must do about our gold hoard; all these and many other urgent problems have been interpreted for us in this splendid and comprehensive analysis.

There is nothing lukewarm or obscure about the authors' challenge to watchful—instead of wishful—thinking, or about their practical, plain-spoken prescriptions for what we must do. So clearly—so vividly—written, here is a book that will trap your attention until the end, at which point you will want to re-read the foreword. It is an excellent book to hand to your teen age son and daughter, for they too will understand it. As Americans, it is they who will someday be the "public opinion" upon which the futures—economic, political, social and cultural—of this democracy depend.

A Study of Lowell

LOWELL: A STUDY OF INDUSTRIAL DEVELOPMENT, by Margaret Terrell Parker; a Wellesley College Publication; The Macmillan Co., New York; $2.25.

Little more than half of this book by a professor of geography at Wellesley College is devoted to the rise and decline of the oldest primarily industrial city in America, written factually without glow of romance or sentiment. Perhaps this is just as well, because it serves to lay the foundation for a clear-headed and wisely unsentimental analysis of the causes of industrial (primarily textile) migration, which completes the book.

The future of the city (and, presumably, of other northern industrial communities) is not altogether dark. In fact, new manufacturing establishments are already coming into Lowell in encouraging numbers—many of them textile manufacturers attracted by the abundance of experienced labor, low waterpower rates, low rentals, and availability of floor space. The woolen and worsted industry, which has been threatened relatively little by southern competition, has been growing in Lowell and now constitutes the city's chief industry, with particular emphasis on worsted, which has been benefiting from the style trend away from woolen.

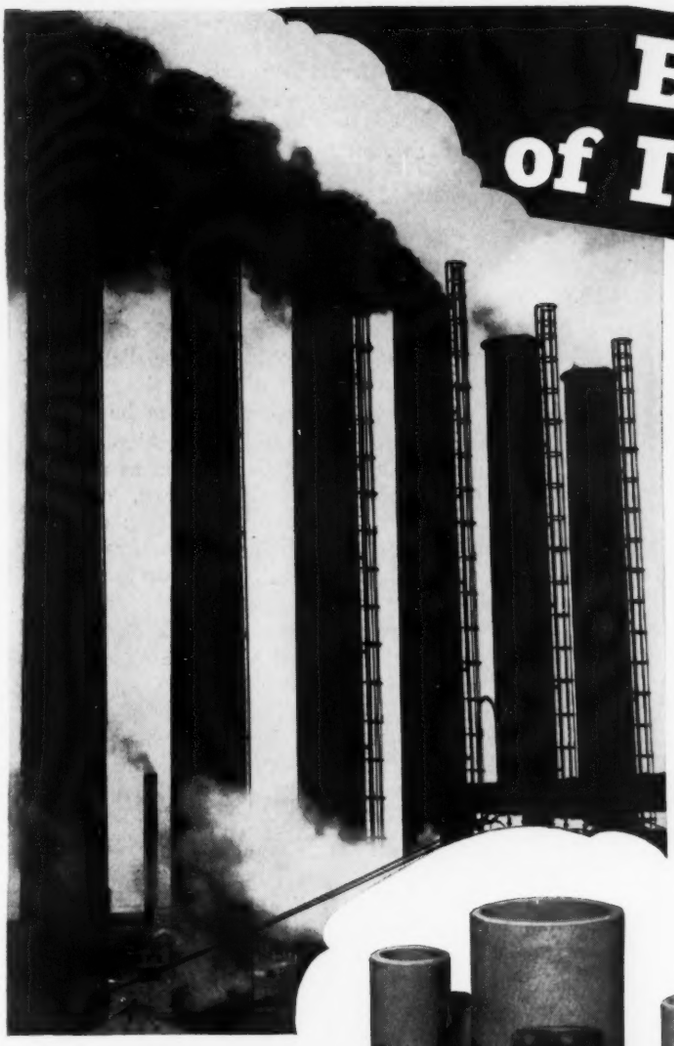
"It is obvious that no factory and no community can long remain young," says Miss Parker. "Maturity with its attendant disadvantages will overtake the South's industrial settlements in time . . . (but) a smoothing out of regional cost differentials will scarcely return to New England the portion of the cotton industry which it has lost."

A Southern Document

I RODE WITH STONEWALL, by Henry Kyd Douglas; University Press, Chapel Hill, N. C.; $3.00.

While this book may not be of great historical value in the eyes of military

BIG GUNS of INDUSTRY



Pointing skyward . . . belching smoke . . . These are America's secret weapons . . . Designed for peace or geared for war, they are the power behind the future of our chosen way of living . . . they are the big guns of American Industry.

The part played by SONOCO in this picture is that of a small cog in a huge set of gears . . . small by comparison, but large in importance.

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. · HARTSVILLE S. C. · MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

sonoco SERVES THE WORLD

PAPER CARRIERS

critics, it is a treasure trove to our southern readers who want a day-by-day review of a soldier's life during the Civil War. It re-introduces to us of today those gallant Confederates of a by-gone era, and through Douglas' eyes we see them not as the stern heroes our history books make them, but as real men who fought unrelentingly, loved passionately, and who could jest though they knew their world toppled about their ears.

Douglas gives a new slant on many events that have been misunderstood, through lack of records, by historians. He tells of his life and work with the South's adored Stonewall Jackson with such simplicity and sincerity that the reader feels a personal friend of the two. And because the author refused to write the story in its final form until the passage of 30 years had mellowed the bitterness in his heart, it is accurate and fair in its tone.

Indeed we are fortunate that the book has at last been published, for "I Rode With Stonewall" is a real addition to southern literature and one which cannot be too highly recommended to those of the South who love it; and those of the North who need to understand it.

Chemists' Yearbook

1940 YEARBOOK OF A.A.T.C.C.: American Association of Textile Chemists & Colorists: Dr. Harold Chapin, Lowell Textile Institute, Lowell, Mass.

This edition of the A. A. T. C. C. Yearbook has been revised and brought up-to-date. Among new data included are two tentative tests—one for moth-proofing, and one for transference of color. Lists of dyes and textile chemical specialties have been extended to cover new products introduced during the last year. Copies of the yearbook may be obtained at a nominal cost by non-members of the association.

A Guide to Pricing Problems

SCIENTIFIC PRICE MANAGEMENT, by Allen W. Rucker; Eddy-Rucker-Nichels Co., Cambridge, Mass.; $5.00.

This volume is a working manual to aid the executive in making decisions on prices or costs, particularly related to price concessions without reduction in direct cost and increases in cost without any change in regular price. The author gives sound formulae for computing the added volume needed to compensate for price discounts or added direct costs, and by presenting six calculator charts, bound in with the manual he provides the means to determine the necessary volume increases under every condition without computation.

Pricing problems are taken up without theoretical discussion, by the case study method. Fifteen specific problems from the author's professional experience give to the reader a practical demonstration of methods which serve as a guide to pricing problems.

News of Suppliers

Atwood Machine Co., Stonington, Conn., has appointed H. M. Bailey as sales manager. Mr. Bailey resigned as assistant sales manager of North American Rayon Corp., New York, to take this appointment.

Diamond Alkali Co., Pittsburgh, Pa., has incorporated the Diamond Alkali Co. of Texas as a subsidiary to manufacture and distribute alkalies and other chemicals. The latter concern has taken over Gulf Coast Chemical Co., Houston, and will operate it as a division. Diamond will erect a plant at Dallas to make silicate of soda and its products. S. W. Walters of Houston is local manager of sales, and A. L. Geisinger of Pittsburgh is in charge of construction and manufacturing.

Austin Co., Cleveland, Ohio, has elected George A. Bryant, who has been executive vice-president and general manager of the Austin Co. since 1930, to be president and general manager, succeeding the late W. J. Austin.

Decorated Metal Mfg. Co., Brooklyn, N. Y., metal spools and boxes, has appointed Ted Dewhurst, formerly sales manager of Atwood Machine Co., to represent it in the textile field.

Calco Chemical Division, American Cyanamid Co., has completed new and enlarged medical department facilities at its Bound Brook, N. J., plant. Adjacent to a clinic room 20x60 ft., are rooms equipped for specialized treatment. Calco division also recently completed its 25th year in business.

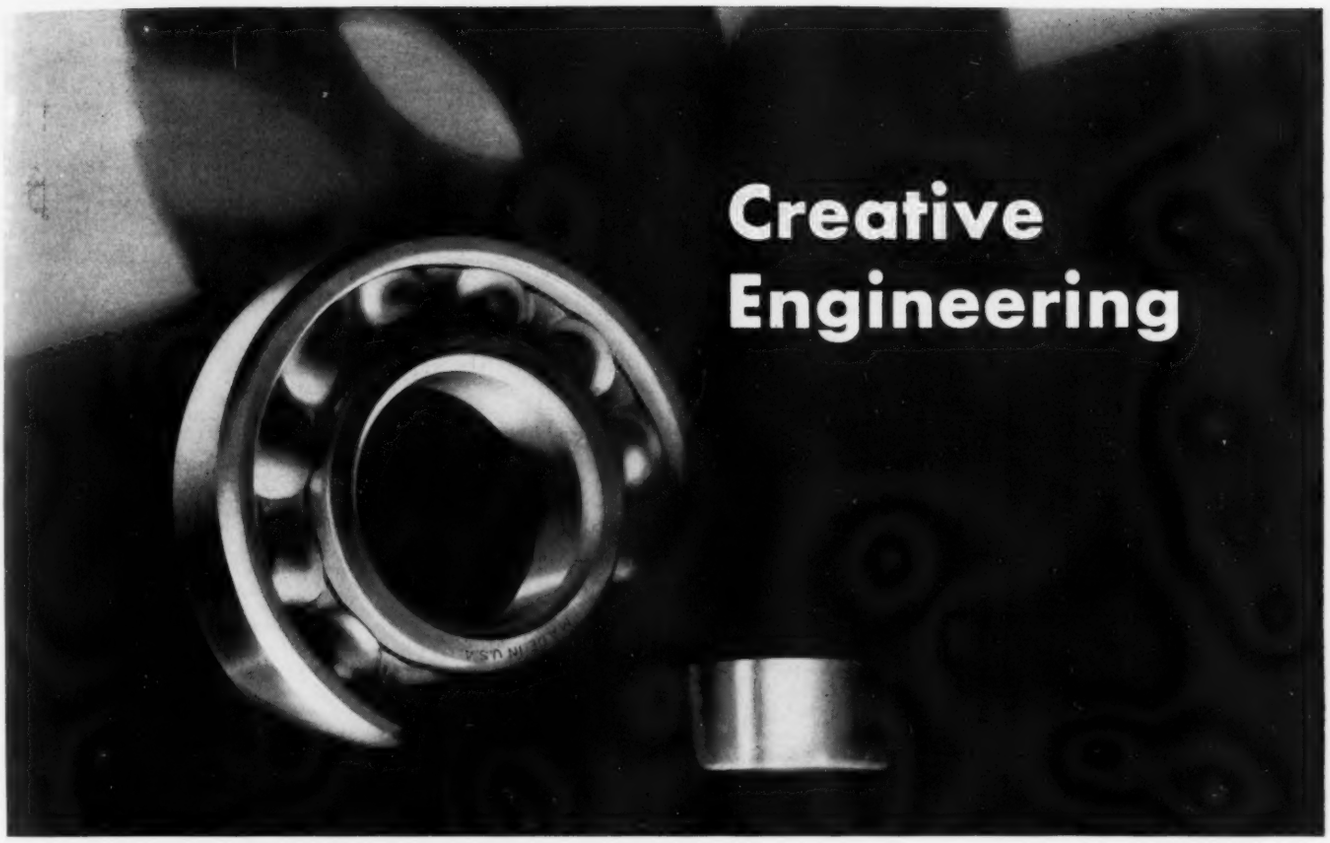
B. F. Goodrich Co., Akron, Ohio, has appointed G. K. Ryan as manager of its latex elastic yarn, cut and latex thread sales. Mr. Ryan succeeds Richard T. Griffiths, who has retired and been placed on the company's pension payroll.

National Oil Products Co., Harrison, N. J., will undertake an extensive plant expansion program as part of the recent SEC refinancing plan, according to Charles P. Gulick, president and chairman of the board.

Ford, Bacon & Davis, Inc., New York, have assigned to W. E. Reynolds, vice-president, and H. E. Whitaker, chief engineer, the duties of James F. Towers, executive vice-president of the company during the period of his absence from the office on Government work. Mr. Towers has been appointed by E. R. Stettinius, Jr., as assistant director in charge of administration, Division of Priorities, Office of Production Management, Washington.

New York & New Jersey Lubricant Co., New York, has appointed Fred W. Phillips as representative in the southern territory which is in charge of Falls L. Thomason, southern district mana-

CROMPTON & KNOWLES LOOM WORKS have made a gift of $2,000 to the British War Relief Society for a rolling kitchen similar to the vehicle pictured above. The kitchen will bear a plaque reading "Donated by Crompton & Knowles Loom Works, Worcester, Mass., U.S.A." It is hoped that the car may be put into service in the Manchester district where the donating firm has many friends in the British textile industry.



New Departure's Famous "Firsts" include:

first coaster brake for bicycles
first yellow taxicab
first monobloc engine
first dual purpose ball bearing
first preloaded bearing
first self-sealed pump shaft bearing
first bearing with oil-circulating system
first self-sealed conveyor roll bearing
first successful treadle roll ball bearing
first "lubricated-for-life" ball bearing
first self-sealed mine car bearing

This company has been pioneering for over fifty years. It is "young enough to venture, old enough to know how." These new departures by New Departure are evidence of the creative ability of its engineers, which is freely at your disposal to improve your machine performance. New Departure, a division of General Motors, Bristol, Connecticut.

NEW DEPARTURE

THE FORGED STEEL BEARING

2954

ger. Mr. Phillips, formerly with Judson Mills, Greenville, S. C., will continue to make Greenville his home.

Diamond Alkali Sales Corp., Pittsburgh, Pa., has appointed Chester Ploeser, Jr., as its Charlotte, N. C., representative.

Quaker Chemical Products Corp. has acquired for their Technical Sales and Research Dept., Joseph Henry Klaber, a graduate in chemistry from Massachusetts Institute of Technology.

Westinghouse Electric & Mfg. Co. has appointed Louis R. Botsai as manager of the Gearing Department at the East Pittsburgh Division. For the last three years Mr. Botsai has been sales manager of the company's Small Motor Division in Lima, Ohio.

FRED GARLINGTON recently appointed by Emmons Loom Harness Co., Lawrence, Mass., to its sales and technical staff. Mr. Garlington was lately with the rayon division of Pacific Mills, was previously with Queen City Cotton Mills, Nashawena Mills, and Stafford Mills, and at one time was an instructor at New Bedford Textile School.

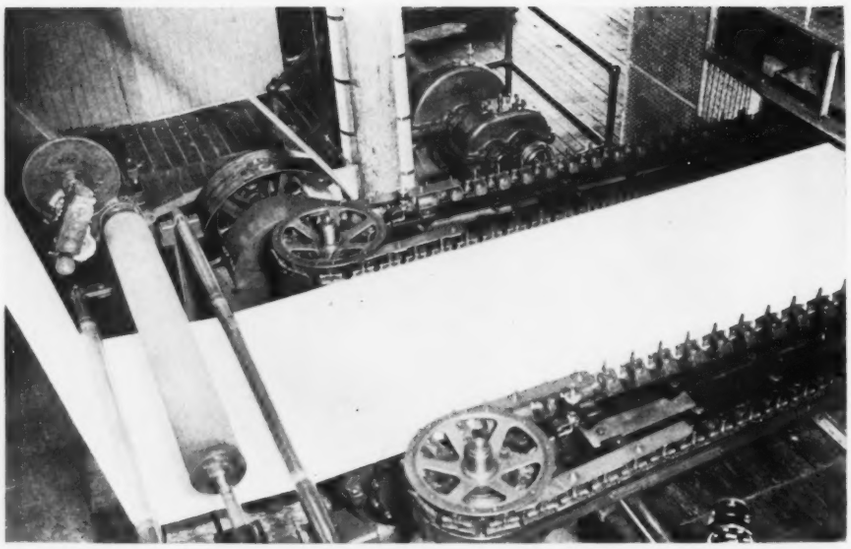
Cowles Detergent Co., Cleveland, Ohio, has elected the following new officers: E. N. Horr, vice-president and general manager; C. C. Bassett, vice-president and director of sales; C. C. Barrett, secretary and treasurer; C. H. Fisher, assistant secretary and assistant treasurer. A. L. Mercer is president of the company.

H. E. Crawford & Co. have moved from Greensboro to Kernersville, N. C.

C. D. Gott Co., Chattanooga, Tenn., has moved its office from the Provident Bldg. to larger quarters at 3303 Brainerd Road.

Corn Products Sales Co., New York, has appointed George W. Matthews, Jr., to succeed the late C. C. Van Buskirk as manager of the metropolitan New York bulk products sales office.

Chelsea Fan & Blower Co., formerly of New York, N. Y., has purchased a plant at Olsen & Grove St., Irvington, N. J., where expanded operations are now under way.



GENERAL ELECTRIC CO. turbine-generator unit coupled to tenter frame in Pontiac (R. I.) finishing plant of Fruit-of-the-Loom, Inc. This recently-developed turbine-electric drive for cloth finishing ranges is designed for application wherever steam at 9 lb. gage or more is available and where process steam is needed. With this system, an adjustable-speed turbine drives the generator and the lead section of the finishing range through a speed reducing gear. Steam is provided for process heating, and follower sections are motor driven. All sections of the range are electrically synchronized at all speeds.

Clinton (Iowa) Sales Co. has appointed Harold P. Goller, Greenville, S. C., as representative in the Greenville territory, succeeding the late Dana H. Alexander.

WOODBURN C. WININGS, manager of the mechanical goods sales department of Goodyear Tire & Rubber Co., Akron, Ohio, since 1930, has been awarded a 25-year pin in recognition of his period of service.

Textile Testing & Research Laboratories, New York, is rebuilding its conditioning room and installing additional equipment. The new room will be lighted throughout by fluorescent lighting, and a constant standard temperature of 70° F and 65% relative humidity will be maintained.

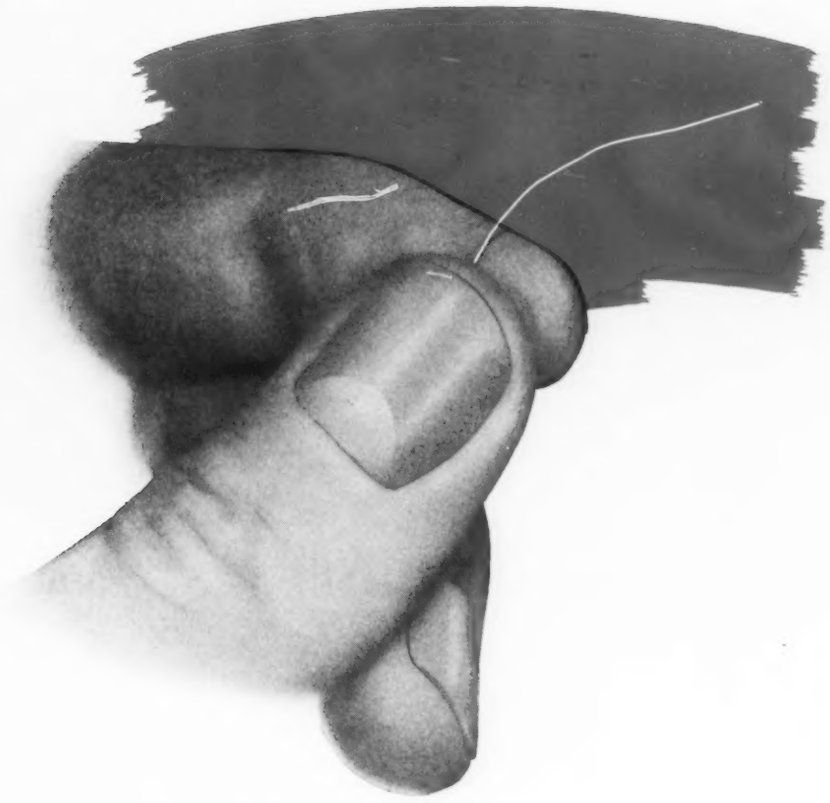
Hatch Textile Research, New York, has succeeded to the laboratory and testing business of Hatch Textile Research, Inc. (a corporation), as of Jan. 1. There will be no change in management or policy. This year marks the firm's 15th anniversary.

Stamford (Conn.) Laboratories of American Cyanamid Co. has placed in operation America's first commercially-built electron microscope, which enables scientists to picture minute objects at 100,000 times natural size. This instrument was developed and built by the RCA Research Laboratories in Camden, N. J.

Amthor Testing Instrument Co., Inc., has purchased the two-story factory building at 45-53 Van Sinderen Ave., Brooklyn, N. Y., and are now located there. Larger and better facilities are now available.

Reliance Electric & Engineering Co., Cleveland, Ohio, is opening a sales

H. N. MIDDLETON of B. F. Sturtevant Co., Camden Branch, who has been relieved of sales duties and appointed engineering consultant, serving customers and branch offices of the Sturtevant Eastern Division territory in an advisory capacity on dust and fume control and pneumatic conveying problems. His experience dates back over 50 years.



WELCOME TO AN *IMPORTANT RE-OPENING*

An important law of nature affects the cotton fibre

When any living organism loses its staff of life it very naturally dies. That is what happens when cotton is picked. The cotton fibre, when it is living and growing, has a tubular construction. When the sunlight and the food from the earth are taken away, the tube collapses and is less lustrous, less resilient, weaker.

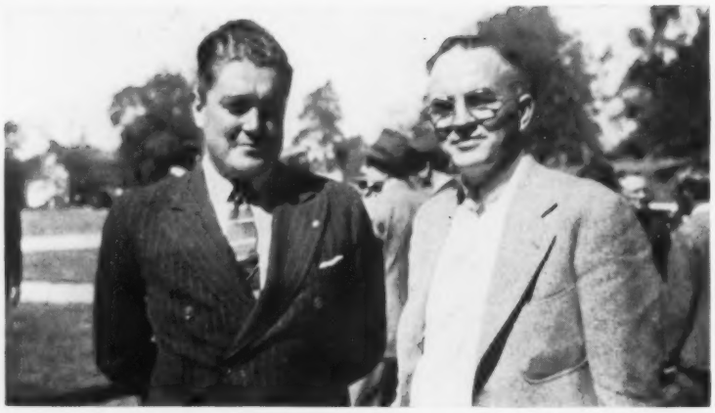
Dixie brings the fibre back to life

Dixie's mercerization process opens the collapsed tube, bringing it back to life.

And when Dixie opens the tube of the dead fibre, Dixie opens a field of unlimited possibilities in the knitting arts. The fibre, thus revived, stays revived, and brings softness, lustre, resiliency and strength to Dixie durene. You pass these qualities along to the consumer, to his increased satisfaction, every time you specify *Dixie . . . durene at its best.*

Dixie **MERCERIZING COMPANY, Chattanooga, Tenn.**

DIXIE DURENE . . . A PRODUCT OF CONTROLLED MANUFACTURE



B. S. ROY of B. S. Roy & Son Co., Worcester, Mass., chats with Dean H. H. Willis head of Clemson Textile School, during course of an S.T.A. divisional meeting at Clemson recently.

D. S. MIX to whom General Electric Co., Schenectady, N. Y., has assigned the responsibility for media and publishers relations, General Electric Publicity Department, Schenectady. He succeeds the late F. R. Davis.

office in Minneapolis, Minn., with Elwood H. Koontz, from the Philadelphia sales engineering staff, as district manager. Wilmer K. Schlotterbeck succeeds Mr. Koontz in Philadelphia.

Sonoco Products Co., Hartsville, S. C., has been granted exclusive sales rights in the United States for Koroseal textile roll coverings by B. F. Goodrich Co., Akron, Ohio, creator of that synthetic material.

Monsanto Chemical Co., Phosphate Division, Anniston, Ala., has appointed Dr. Russell L. Jenkins as director of research. He comes from St. Louis where he was assistant director of research for the Organic Chemicals Division of Monsanto. He is succeeded by Dr. Richard M. Hitchens, formerly group leader in the Organic Chemicals Division Research department. Monsanto's Organic Chemicals Division, St. Louis, has promoted Daniel S. Dinsmoor, manager of the Monsanto, Ill., plant to be assistant general manager of the Organic Chemicals Division of the company.

American-Marietta Co., Chicago, has elected Grover M. Hermann, Jr., to the board, while C. S. Beaver, general manager of operations at Marietta, Ohio, and High Point, N. C., and Muir Rogers, manager of the mid-western industrial finishes division, were elevated to vice-presidencies.

All-America Package Competition for 1940 sponsored by *Modern Packaging Magazine* now has entries on display in Room 306, Chanin Bldg., New York. Prize winners will soon be announced and awards will be presented on April 2.

Acme Steel Co., Chicago, has appointed Ralph Norton, president for the last 18 years, as chairman of the board, succeeding James E. MacMurray, founder of the company and associated with it for more than 50 years, who has resigned. Charles S. Traer succeeds Mr. Norton as president. He was formerly vice-president in charge of production. Frederick C. Gifford, first vice-president and director of sales, has retired from active duty. Chester M. MacChesney becomes first vice-president and secretary. Carl J. Sharp, vice-president, succeeds Mr. Gifford as director of sales, and Thornton A. Rand is now treasurer and assistant-secretary.

Warwick Chemical Co., West Warwick, R. I., has appointed to its sales staff Parke Masters, formerly with R. & H. Chemical Dept. of E. I. du Pont de Nemours & Co. and with the Joseph Turner Co. of Richfield, N. J.

Saco-Lowell Shops, Boston, reports net profit of $883,897 for the year ended Nov. 30, 1940. President David F. Edwards stated that the sales outlook for 1941 is encouraging, "the market still being sober, stable and free from inflation in either prices or costs. There is no runaway market for textile machinery at sharp advances in price, nor is there likely to be," he declared.

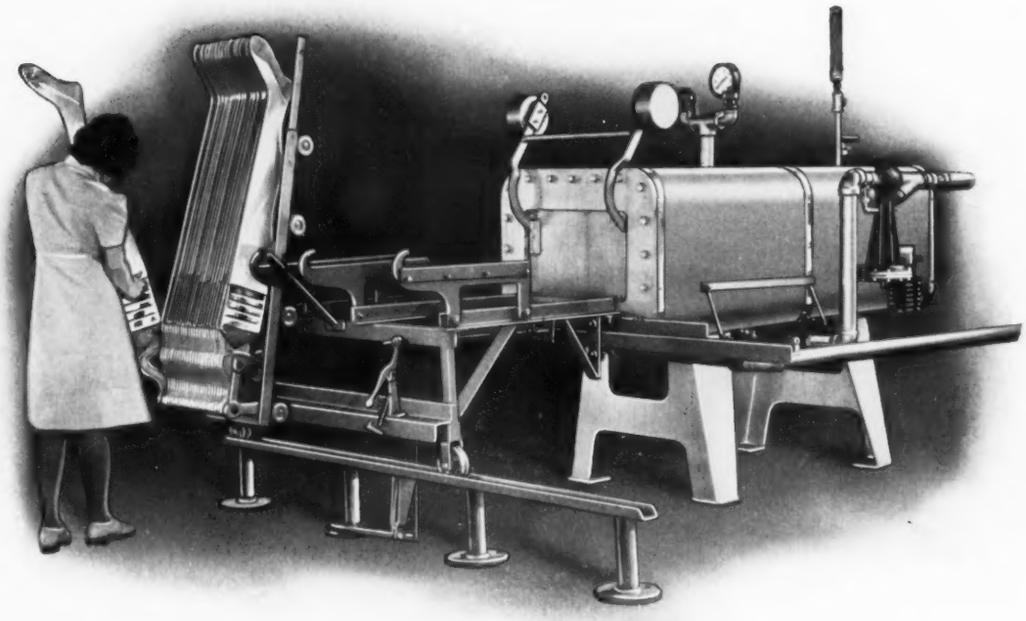
Hercules Powder Co., Wilmington, Del., reports net earnings for 1940 of $5,807,769 compared with net earnings for 1939 of $5,324,992. Net sales of goods and services in 1940 totaled $52,429,191. About $1,144,000 was spent on research and product development.

J. W. GARDNER, chairman of the executive committee of the board of directors of the Gardner-Denver Co., Quincy, Ill., who now wears on his watch chain a tiny gold, diamond-set model of a steam governor, given him by his associates in recognition of his 60 years service with the company which was founded by his father in 1854 as the Gardner Governor Co. Its products have since been multiplied to include pumps, air compressors, etc. The company has lately acquired a 13-acre plant for further expansion.

RALPH H. NORTON (left), now chairman of the board of Acme Steel Co., Chicago, and CHARLES S. TRAER (right) who succeeds Mr. Norton as president.

PARAMOLD II

NYLON PREBOARDING MACHINE



An Individually Operated Unit Offering the Utmost In
SIMPLICITY AND PRODUCTIVITY

● Now available with its many exclusive features is this outstanding development in nylon equipment.

● Two batteries of 24 forms insure continuity of operation by one attendant. One battery of forms is always in the steam chamber being treated, while the other is outside and in use. Each set of forms, being perfectly balanced, when removed from the steam chamber tilts from its horizontal position into an upright working position. Thus all forms are simultaneously brought to the most desirable and productive angle. The operator then moves the other unit of forms in front of the door for insertion into the machine. The door is opened inwardly for removal of one set of forms and substitution of the other. Counter-balancing of the door permits this operation with practically no effort.

● All work is done in front of the machine, obviating the necessity of walking around it.

● Forms are of highly polished non-snagging stainless steel, made rigid by an inner rib to eliminate clashing or bending, a major cause of cuts and pulled threads. Each form is equipped with a Rapid Change Base for instantaneous size changes.

● One of the most novel features of this unit is the door which is sealed from within by the steam pressure used in treating the stockings. Absolutely leakproof, this construction eliminates all mechanical sealing devices and results in a truly 24 hour a day machine. It can be depended upon to be in service at all times. Pressure is attained in ten seconds. The design of the cabinet permits perfect insulation and the small door holds heat dissipation to a minimum.

PARAMOUNT TEXTILE MACHINERY CO.

538 SOUTH WELLS STREET **CHICAGO. ILLINOIS**

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Leather belting, and the part research has played in its improvement and in the development of new types of belt drives, is discussed in the December, 1940, issue of *Research Illustrated,* published by E. F. Houghton & Co.

Loom harness, the need for proper selection of correct types for specific weaving jobs, and its facilities for rendering advisory service, are described in a leaflet offered by Steel Heddle Mfg. Co.

Fire prevention during construction of new plants or expansion of plant facilities is the topic of an article in the January, 1941, issue of *Factory Mutual Record,* offered by Associated Factories Mutual Fire Insurance Cos.

Arc welding in building construction is the subject of a 16-page bulletin which describes and illustrates the various advantages of welding; included are several pages devoted to electrodes and welding equipment; booklet is distributed by Air Reduction Sales Co.

Flue gas temperature recorders are described in a 4-page leaflet which points out how they help maintain temperatures uniform during working hours, thus making possible high combustion efficiency; folder is issued by Foxboro Co.

Silicates of soda are promoted and reference made to several recent studies of their use in connection with textile and other manufacturing, in the January, 1941, issue of *Silicate P's and Q's,* a publication of Philadelphia Quartz Co.

Use of Neoprene in manufacture of braided hose, duck hose, and combination duck and braided hose is featured in the November-December, 1940, issue of *Neoprene Notebook,* published by E. I. du Pont de Nemours & Co.

Machine-tool lubrication, lubricants produced for the purpose, and the advantages they make available, are described in an illustrated mailing piece offered by E. F. Houghton & Co.

Grabs for materials handling systems, in a wide variety of types, are pictured and described in an 8-page booklet produced by Cleveland Crane & Engineering Co.

Rubber hose for industry, catalogued under 37 specific-use sub-heads, is described and specifications given, in a new catalog offered by Hewitt Rubber Corp.

Surface-active agents used in the degumming of silk hosiery are featured in the December, 1940, issue of *Dyestuffs,* published by National Aniline & Chemical Co.

Shipping methods, and how its products can help stop profit leaks, are discussed in a new booklet offered by Acme Steel Co.

Automatic winding of filling bobbins by means of a recently introduced machine is the subject of Bulletin 99 offered by Universal Winding Co.

Stainless-clad steel, and the advantages it makes possible when used in fabrication of textile machinery, are covered in a folder issued by Ingersoll Steel & Disc Div., Borg-Warner Corp.

Roller-chain belts, their design and application, as well as data on sprockets used in connection with them, are described in 120-page Catalog M, distributed by Baldwin-Duckworth Div. of Chain Belt Co.

Cleaning textile machines by means of high-velocity air current is the subject of illustrated January, 1941, issue of *The Swirling Column,* issued by American Monorail Co.

Felts for sealing and lubricating bearings, with numerous diagrams showing their proper application, are described in a booklet offered by Felters Co.

A new pump, in which both driving motor and pump are on one shaft and one frame, for 1 to 10 hp. inclusive and heads up to 160 ft., is described in Bulletin B-6140 issued by Allis-Chalmers Mfg. Co.

Leather belting, packings, and other leather products are described in a recent catalog, which includes considerable engineering data, brought out by Alexander Bros., Inc.

Pyrometers, photoelectrically balanced recorders, indicators, controllers, and recording controllers are described in Catalog No. 1101F issued by C. J. Tagliabue Mfg. Co.

Heddles, harnesses, pile wires, and other equipment for weaving frieze and other pile fabrics are discussed in a bulletin recently issued by Steel Heddle Mfg. Co.

Fluorescent Fixtures. Miller Co. Equipment for general and localized industrial illumination using 48 in., twin 40-watt fluorescent units is pictured and described in Catalog Section 1C.

Valves. Kennedy Valve Mfg. Co. Catalog 63 covers valves, pipe fittings, and fire hydrants in a variety of metals and for numerous services.

Water Treatment. Permutit Co. A process for removing silica from high-pressure boiler feed water is described, and the equipment used is pictured, in Bulletin 2377.

Casters and Wheels. Darnell Corp., Ltd. Manual describes nearly 4,000 different types of casters and wheels, and tells the uses to which each is best suited.

Flooring Problems. Philip Carey Co. Catalog describes advantages of asphalt tile flooring for factories, warehouses, loading platforms, and other industrial applications.

Chains and Sprockets. Whitney Chain & Mfg. Co. Stock List V-150 covers roller chains and sprockets available as stock items at central distribution points; engineering and price data on each type is included.

Transformers. Allis-Chalmers Mfg. Co. Leaflet B-6096 outlines engineering features of new distribution transformers, highlighting ease of installation, freedom from service interruptions, and dependability.

Chemical products for use as flame-retarding ingredients, plasticizers, softeners, solvents, and for many other purposes are described in Booklet P-115 titled "The Aroclors", issued by Monsanto Chemical Co.

Loom parts, and its facilities for warehousing them and servicing customers needs, are the subjects of the January, 1941, issue of *Cotton Chats,* published by Draper Corp.

Cord conveyor belts are the topics of a 12-page booklet, illustrated with pictures showing both construction details and varied types of applications, issued by B. F. Goodrich Co.

"Rayon Today" is the title of a booklet giving brief, nontechnical information on rayon manufacture, uses and history, recently issued by E. I. du Pont de Nemours & Co.

Comparative Yarn tables, a table of combined-yarn counts, and data on twist direction and principles of count systems, are offered, in a new edition, by Thos. D. Toy & Co.

Ball bearing motor cartridges, for rebuilding electric motors having worn bearings, are the subject of a folder being distributed by Fafnir Bearing Co.

Mallets and hammers made of buffalo hide, for a wide variety of textile and industrial uses, are illustrated and described in a 4-page folder issued by Danielson Mfg. Co.

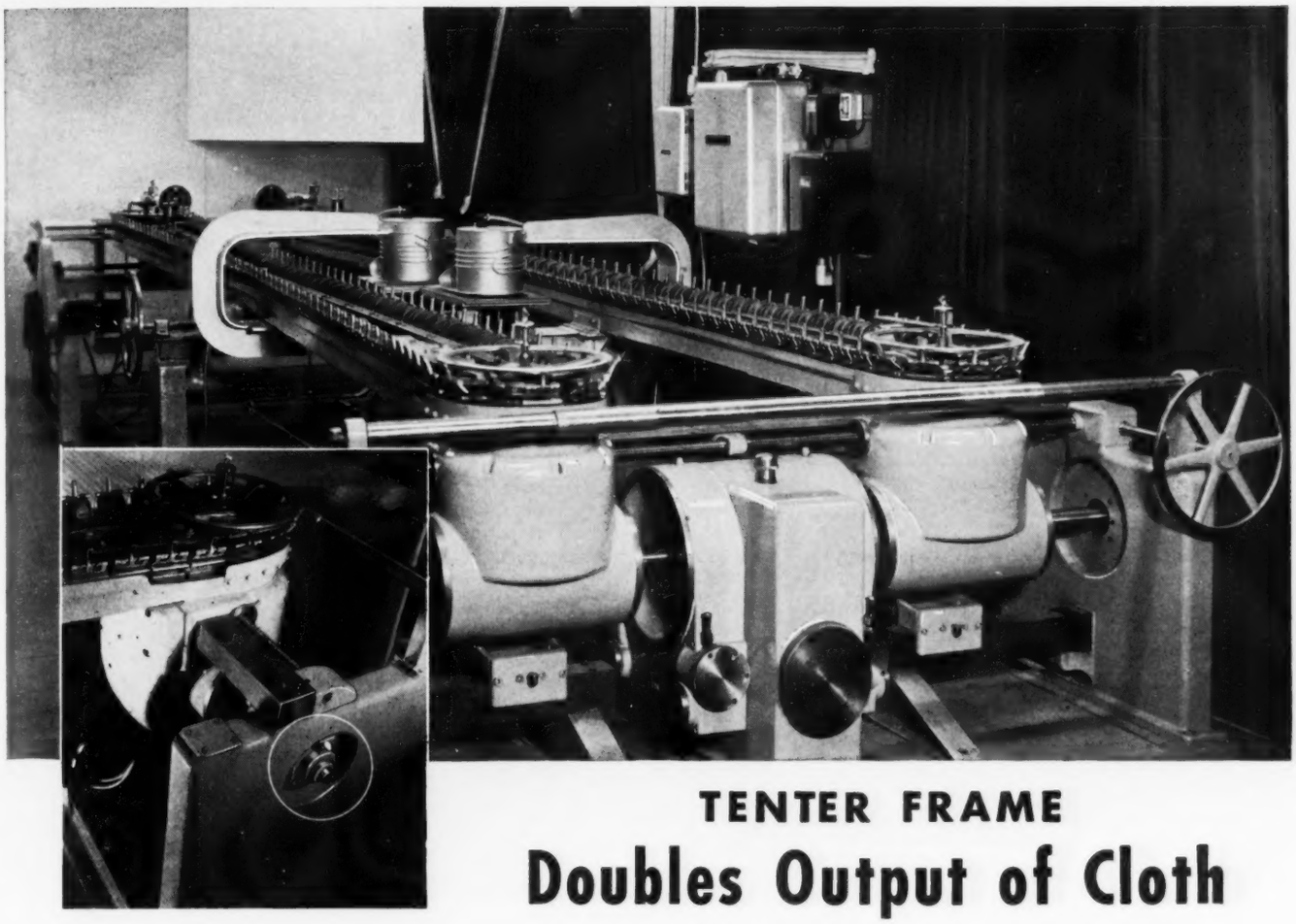
Flow meters of the orifice type for accurate metering of steam, water, air, and gas are the subject of folder No. 140 recently announced by American District Steam Co.

Ball-bearing units in permanently sealed, pre-lubricated, self-aligning types are described in Catalog 840, which contains considerable specification data, issued by Stephens-Adamson Mfg. Co.

Radiant heat lamps, and their application to industrial drying, baking, and heating tasks, are the subjects of Booklet A-3817, published by Westinghouse Lamp Division.

Sizing worsted shirting warps of the type now being ordered in national defense procurements, sizing cotton warps, and changes in wool oils are the topics of articles in the January-February, 1941, issue of *The Houghton Line,* published by E. F. Houghton & Co.

Rayon warp sizing, with emphasis on the importance of uniform speed in obtaining best results, is discussed in the January, 1941, issue of *Rayon Warp Sizing Specialist,* published by Charles B. Johnson Machine Works.



TENTER FRAME

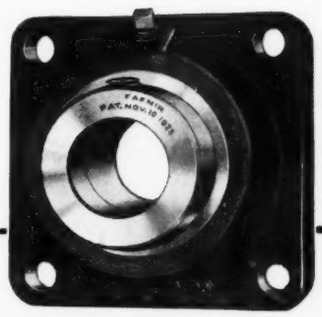
Doubles Output of Cloth

Increased Production Possible With "Fafnirized" Textile Machine

Neat design, a solid, welded steel bed plate, an automatic weft straightening control with "electric eyes" – and Fafnir Ball Bearing units are among the features that enable this machine, made by Winsor & Jerauld, Providence, R. I., to achieve its high production record.

Since exact tension of the cloth and evenness of motion are vital in guarding the uniform quality of the goods, this manufacturer chose anti-friction bearings for all important points of motion within the machine. Fafnir Flange Cartridge Units proved ideal because of their easy 1-2-3 installation and deep-groove, long-life bearing.

Another example of clean, oil-free operation, easy assembly and long-life performance brought to the textile industry by Fafnir Ball Bearing Units. Write for the Textile catalog. The Fafnir Bearing Company, New Britain, Connecticut. Branch Offices: Atlanta . . . Birmingham . . . Boston . . . Charlotte . . . Dallas.



USED "BY THE DOZEN" ON MODERN TEXTILE MACHINES

The Fafnir Flange Cartridge offers unbeatable advantages: (1) Flange is easily bolted to frame (2) Bearing is secured to shaft with finger-twist of Self-Locking Collar – no machining, adapters, shoulders required (3) Self-aligning, yet with deep races and large balls for longer life (4) Grease lubrication for cleanliness.

FAFNIR *Ball Bearings*

THE BALANCED LINE • MOST COMPLETE IN AMERICA

THIS IS NO. 25 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

SPECIFICATIONS FOR BOBBIN AND PIN COP ATTACHMENTS (No. 90 Winder)

The information on this page is provided for convenience of

(1) *mills desiring to change from one length of bobbin to another.*

The chart shows the maximum length of bobbin (A) and maximum traverse of yarn on the bobbin (B) that can be obtained with each of the winding attachments.

(2) *mills desiring maximum amount of yarn on the bobbin.*

The dimension shown from the spindle head to the start of winding on the bobbin is standard. If a collar or washer is placed between the spindle head and the base of the bobbin to get maximum yarn traverse, the winding point must be measured from the spindle head — not from the bobbin base. The winding point is not changed by adjusting the length of stroke when changing from one hole to another on the Traverse Bar Lever.

(3) *mills selecting parts for their machines.*

The correct number of any part can be quickly determined by taking the measurement and then referring to the chart.

Mills using a long bobbin or winding with heavy tension can support the tip end of the bobbin with the Bobbin Support Attachment. The Bobbin Support Bracket (Fig. 2) is available for all attachments and is the same for Pin Cop or Bobbin Attachment. No through spindle is used, as the bobbin is driven from a driver that fits a slot in the base of the bobbin.

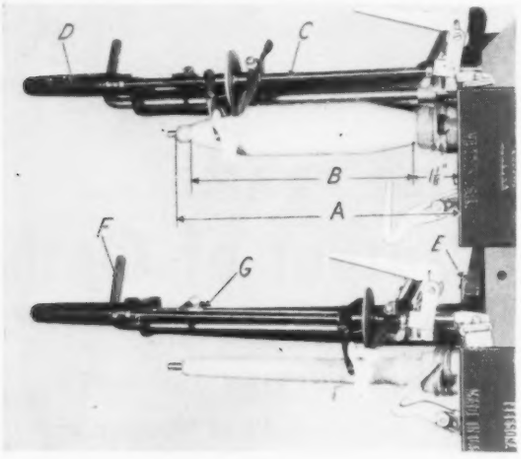


FIG. 1

Pin Cop Attachment is required for winding onto automatic loom bobbins or onto paper tubes or cops. The Traverse Bar (C) is pivoted in the Support (D) to allow the Cop Former to move the Traverse Wheel in at the start of winding. The Traverse Bar Support can be adjusted to the right or left to build parallel-sided bobbins.

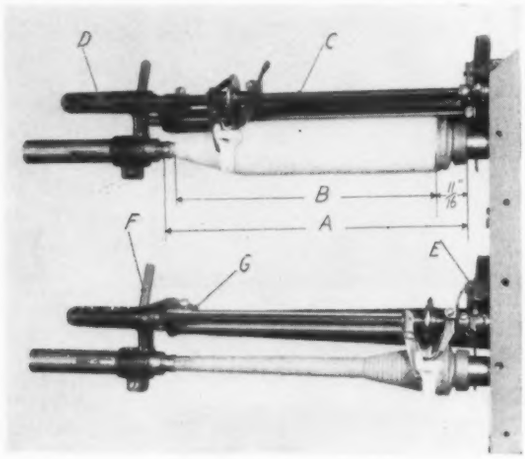


FIG. 2

Bobbin Attachment is used when winding onto cone-base bobbins. The Traverse Bar is made in one piece, and is held in the Traverse Bar Support in a fixed position. All bobbins produced with this attachment will be parallel-sided. The Traverse Bar Support (D) is part of the Bobbin Support Attachment. This can also be used with the Pin Cop Attachment.

Pin Cop Attachment	8″	9½″	11¼″	12½″
A. Bobbin Length	8″	10″	11 3/8″	12 5/8″
B. Yarn Traverse	6 7/8″	8½″	10¼″	11½″
C. Traverse Bar				
Part No.	90-2186	90-2186A	90-2186G	90-2186-12
Length	9.28″	10.91″	12 5/8″	13 13/16″
Reverse Wind	90-2186C	90-2186E		
D. Traverse Bar Support	90-60BX	(or use 90-60GX with Bobbin Support Attachment, Fig. 2.)		
E. Traverse Bar Support Bracket				
Part No.	90-871	90-871A	90-871F	90-871E
Length	10.12″	11.74″	13.50″	14.80″
F. Starting Lever	90-85	90-85A	90-85C	90-85E
G. Sizing Lever Rod	90-1148	90-1148A	90-1148E	90-1148C

Bobbin Attachment	8″	9½″	11¼″	12½″
A. Bobbin Length	8″	9 5/8″	11 3/8″	12 5/8″
B. Yarn Traverse	7 5/16″	8 15/16″	10 11/16″	11 15/16″
C. Traverse Bar				
Part No.	90-187	90-187A	90-187-16	90-187F
Length	16.12″	17.75″	19.50″	21.00″
Reverse Wind	90-187C	90-187D		
D. Traverse Bar Support	90-60X	(or use 90-60GX with Bobbin Support Attachment, Fig. 2.)		
E. Traverse Bar Support Bracket				
Part No.	90-871	90-871A	90-871F	90-871E
Length	10.12″	11.74″	13.50″	14.80″
F. Starting Lever	90-85	90-85A	90-85C	90-85E
G. Sizing Lever Rod	90-1148	90-1148A	90-1148E	90-1148C

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

*Reg. U. S. Pat. Off.

THE OVERSEERS' CORNER

CLANNISH SECOND HANDS

A PETE & BILL DISCUSSION

It was Pete's time to be on the glum side. For once, Bill was in a good humor, at least for him it was good. The mill was running 24 hours a day and there was a bonus in the air.

"Have you ever had any trouble with clannish second hands, Bill?" asked Pete worriedly.

"Can't say as I have," grunted Bill. "They're all clannish. What difference does it make? If they want to stick together—I say let 'em stick."

"That's not the point, Bill," continued Pete. "We have more second hands than we used to, what with the third shift and everything, and they seem to have formed a sort of fraternity among themselves. That's all right from a social standpoint, but I feel that the group has not only gotten snobbish to outsiders, but it also has become sort of a political organization designed to push friends and relatives into better jobs."

"That's old stuff, Pete," commented Bill. "Don't let it worry you. What difference does it make who they recommend for promotion as long as he does the work okay?"

"But it does matter, Bill. The other day a second hand left and there was a vacancy. For some time I've been watching young Tom Jones who seems to be one of the smartest and most ambitious fellows in the department. I want him for the job and he deserves it, but the second hands insist—as a group—that he is not capable of holding it down, and every one of them is plugging for Bill Smith, not half the man Jones is. If I give Jones the job, I'll make enemies of all my present second hands, yet I simply can't see Smith in the job."

"Ever been troubled with clannish second hands, Bill?"

Bill settled back in his plush-bottom chair and looked wise. He said: "Give the job to Smith. It's better to have all of your second hands with you, than only the one new one with you and all the others against you. Every time you go against them you are building up some one else for your own job."

What about political cliques of second hands?

Letters From Readers

Fire the Master Mechanic!

"Third Shift Efficiency"
Pete & Bill, Jan., 1941

Editor, Overseers' Corner:

The monthly arguments and resolutions of Bill and Pete are always interesting and sometimes instructive.

Under the heading, "Third Shift Efficiency" Bill may find it necessary to "fire" somebody, but I should advise that he begin with the master mechanic for the statement that the third shift had 184% more breakdowns than the first or the second shift, or 42% more than both together. If the master mechanic kept a record of such breakdowns Bill should be able to put his finger on the trouble; if there are no records he should "keep his hair on."

I am enclosing a 3¢ stamp as an initial contribution to buy Pete a new clock; the 20 min. gain on an 8-hr. shift would mean that looms running at 160 picks per minute would run approximately 166.4 picks per minute, and he might have some shuttles fly out and looms bang off. But, Pete, think of the thousands of electric clocks operating from the lines of the large power companies in the South! I have such a clock and for months at a time it does not vary ten seconds from the Arlington time signals which I receive daily.

Pete, you know a rope shortens with the increase of humidity or moisture, but a belt lengthens. If the increase in humidity is large, speeds will be reduced with belts. Speeds would increase with the rope drives. Of course, Pete, your plant may be running with an individual water power or steam plant where speed regulation is not considered essential. Any motor manufacturer or salesman will tell you that an a.c. squirrel-cage motor speed increases approximately 1% with 10% increase in voltage.

Pete, it is possible that you might

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42nd St., New York.

have a very poor wiring condition in your mill that would allow such a change in voltage as to increase the speed that you refer to, but even that is doubtful; and what I am afraid of is that you have jumped to conclusions that are not based on actual facts.

"CAROLINA"

Training Men Offers Overseer Opportunity

"Draft & Labor Shortage"
Pete & Bill, Nov., 1940

Editor, Overseers' Corner:

The problem of training new men should be taken seriously whether there is a labor shortage or not. The overseer is directly responsible for the quality of workmanship and the efficiency of his men. He also is responsible for the equipment and materials the new men will use. So why not personally see that each new man is well trained along these lines. Whether the training takes place at night classes or on Saturday or on the job is unimportant if the overseer can give the class his undivided attention. Being responsible for the accidents in his department, these classes would also give the overseer a chance to sell the new men on the department's safety program. Yet the most important point is that by instructing the new men personally he would have a wonderful chance to sell himself to his men and gain their respect and cooperation from the start.

I. W. G.

(*Slater, S. C.*)

Team Work

Editor, Overseers' Corner:

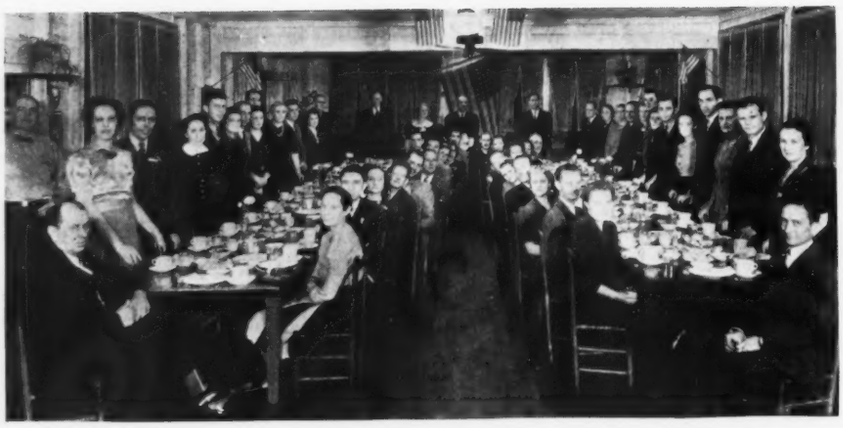
Team work does not mean showmanship; it means respect for the company and its products as well as its executives. Team work requires everyone pulling his share of the load.

The employee who is drawing his income from an organization owes it to his firm to put service before personal feelings and opinions. He can do his work well even if his views differ from the management's. He is hired to do his best according to the plans and methods outlined by those who are responsible for the firm's progress. When he has differences of opinion, he may feel free to express them to the proper parties, but must always subordinate his opinions to the firm's interest. Constructive measures can always be found for correcting wrong conditions.

A good team worker is one who enters heartily into the activities of his organization and who works intelligently and with good spirit shoulder to shoulder with his associates, upholding the good will of the company.

In every field of work the success of the worker depends in a large measure upon the profits of his organization and upon his personal ability to convince his employer that he is an essential part of the profit-making machine.

DEWEY CATES, *Night Superintendent*
Melrose Hosiery Mill
High Point, N. C.

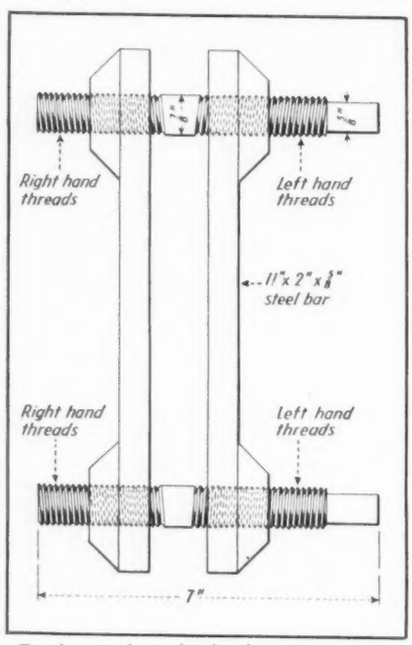


MEMBERS OF THE FLOWER CLUB of Southern Worsted Corp., Greenville, S. C., held their annual dinner recently to discuss activities of the coming year. This organization, founded in 1934, has 42 members who represent 100% of the weaving department's night shift. Purpose of the group is to cheer the sick with flowers and to cooperate with the Greenville Community Chest in caring for the needy in the Southern Worsted community. Each member contributes 5¢ a week toward this work. P. E. Bowie is president and treasurer; H. L. Harrison is secretary.

Overseers' Practical Helps

Cylinder-Head Spreader

Cylinder heads on spoolers, twisters, and spinning frames sometimes become rusted and stick to the arbor or shaft. When this happens it is usually an unpleasant operation getting them free. A simple tool for breaking loose stuck heads can be made, as shown in the sketch, from two 11-in. steel bars and two 7-in. bolts. Reinforcements with 1½-in. faces are welded on the ends of the bars. Through the center of the face of each reinforcement drill a hole for the lag. Cut 3 in. of right- and 3 in. of left-hand threads on each of two 7-in. bolts, leaving about ¼ in. between threads and leaving ¾ in. on one end for a wrench head. The threads should be coarse in order to stand the strain to which they will be subjected.



Easily made cylinder-head spreader

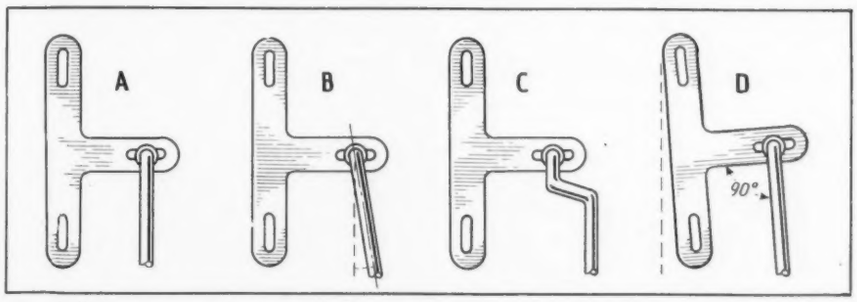
Two men, one on each side of a frame, can operate the spreader by first screwing the bars together until they fit between the cylinder heads, then screwing the lags apart, spreading the heads. The lags must always be turned together, and the same amount, to keep the bars from jamming.

—Harry G. Clark (*Penna.*)

Dividing Shed on Dobbies

Dobbies usually contain a certain amount of lost motion. Beginning at the dobby crank and going through the lifter rod joints, the knives, the hooks, and the jacks, each loose connection increases the amount of lost motion. The various bearings must be rebushed or replaced, if badly worn, but must not be fitted too tight. For preventing development of excessive play, all bearings and connections should be well oiled.

Eccentricity of the rocker contributes



A—Lifter rod vertical; *B*—Lifter rod not vertical (exaggerated); *C*—Rod made vertical by bending; *D*—Correct position of rod and rocker for dividing shed

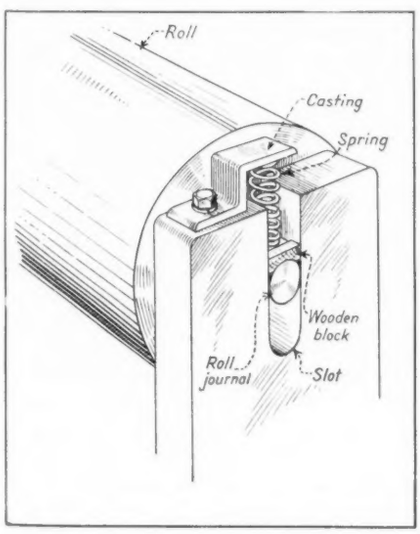
to the amount of lost motion. Eccentricity is the result of the lifter rod not being in a vertical position when the dobby crank is at its highest and lowest throws. Frequently, if the lifter rod is not vertical, it can be bent and brought into position. Sometimes, however, bending makes the rod too short for use and longer rods are unobtainable. Under such circumstances the loomfixer must make the best of the situation.

In dividing the shed on a dobby with lifter rod not vertical, the procedure is very similar to the standard method. The difference is in the choice of the point used for setting. Instead of seeking a horizontal rocker arm with the crankshaft in the same position on two successive picks, the fixer should adjust the length of the lifter rod to give a right angle between rod and rocker arm with crankshaft in same position on the two picks. C.S.B. (*Penna.*)

More Sliver per Can

Spring-weighting of card calenders gives increases up to 40%

APPLICABLE TO ANY COTTON CARD, a pressure assembly developed for use on card calender rolls is receiving serious attention from superintendents and overseers. It consists of two metal clips bolted to the top of the calender roll stand, one at each end of the rolls, and two coil springs compressed between the clips and the roll journals. To prevent wear on journals or springs, small wooden blocks are placed between the journals and the bottom faces of the springs. The attachment has been installed in a number of southern mills and has been the subject of discussion at several recent meetings of carders and spinners.



Only one cap screw is required for holding the casting of the spring-weighting attachment

At Monarch Mills, Lockhart, S. C., where the device has been added to every card in the mill, Frank D. Lockman, superintendent, states that cost of installation was very low, that there is a substantial saving in card room costs, and that more even yarns are being spun. He is operating on 65-grain sliver and is running 1 1/16-in. western and local cotton.

Mr. Lockman found it necessary, in his experiments with the attachment, to make several changes in his card room machinery and slightly to modify the spring pressure. Application of pressure to calender rolls greatly increased tension on the sliver between calender and coiler rolls. To overcome the difficulty, coiler rolls were made smaller. They were turned down to 1 31/32-in. diameter, and the tension became satisfactory. At the same time, roll journals were reworked where necessary and many damaged rolls were replaced. The going over which these rolls received was, in itself, an item which would tend to improve the quality of the sliver.

The original springs used with the attachment resulted in a 40% increase in can capacity. Such pressure, it was felt, was too heavy and resulted in damage to fibers. Accordingly, weaker springs, 75% the strength of the originals, were installed, and no further fiber damage was observed. Can capacity was then 30% above normal and there was still a 15-min. increase (50 to 65 min.) in doffing time.

Although the cans now appeared to contain no more sliver than normal, it was decided to decrease doffing time to 60 min.; thus, the top-heavy pile of cotton protruding from the cans was cut down, making the cans easier to handle and decreasing occasional losses due to sliver falling on the floor. This change still left can capacity at 20% above that considered normal before installation of the attachment.

On drawing frames, the close roll settings which were being used had to be opened slightly to prevent fiber damage. The compressed sliver stretched less between cans and back rolls—an additional factor in preventing uneven yarn. Ends down on drawing showed a marked decrease; and this, coupled with the greater amount of sliver in the cans, allowed frame operators to continue to run 48 deliveries and, at the

Comparison of compressed and normal slivers

	Weights		*% Variation*	
	Compressed	*Normal*	*Compressed*	*Normal*
Card sliver	66.5 gr.	66.0 gr.	9.6	13.3
1st drawing	66.0 gr.	66.2 gr.	20.6	18.5
2nd drawing	65.8 gr.	65.8 gr.	20.7	18.6
Slubber	.805 HR	.815 HR	33.4	30.8
Speeder	3.33 HR	3.43 HR	50.4	67.3
Spinning	30.55 HR	31.17 HR	...	...
Yarn break	67.2 lb.	66.0 lb.	...	...

same time, to doff the cards for their own creelings.

Two separate tests were made to compare results obtained with and without the pressure attachment. Both tests, made two weeks apart, were carried out on organizations making the same yarn from the same cotton. In both cases the compressed sliver went through later processing showing less variation than the normal. Variation in the products of card-room processes was checked on a roving tester; the speeder roving made from compressed sliver showed approximately 17% less variation.

In weight, the sliver, roving, and yarn from compressed sliver were slightly heavier than those from sliver which had not been compressed. Taking into consideration the slight difference in yarn sizes, the breaks of the final yarns were about equal. The accompanying table shows the results in more detail. The figures shown are averages of the two tests.

The attachment used at Monarch was obtained from Kempton Parts & Spring Co., Gastonia, N. C., who manufacture the device in various forms to fit the different makes of cards. Installation is simple and involves only the boring and tapping of two holes in each calender roll stand. In these holes are threaded the cap screws which hold the clips; each clip requires one screw. The paraffin-impregnated wooden blocks which fit between roll journals and springs can be replaced, when they become worn, by a few turns of a wrench.

Wallace Splawn, who led the technical discussion

S. C. Carders and Spinners

Convene at Clemson to discuss mill problems

CARDING AND SPINNING PROBLEMS were discussed at the fall meeting of the South Carolina Carders and Spinners Division of the Southern Textile Association, held at Clemson (S. C.) College. W. T. Morton, chairman of the division, presided. W. W. Splawn, of Pelzer, S. C., led the technical discussion. Featured speaker on the program was Major G. Heyward Mahon, Jr., director of the South Carolina Defense Council.

Opening the discussion, Mr. Splawn asked about use of a spring tension device on card calender rolls. J. Manning Bolt, general superintendent, Chadwick-Hoskins Co., Charlotte, N. C., said that use of these springs permitted him to put from 30 to 40% more sliver in the can, which increased creeling time considerably. However, the breaking strength of the yarn went down and draft was not so even. Robert T. Stutts, superintendent, Woodside Cotton mills Co., Fountain Inn and Simpsonville, S. C., asked why the same results could not be obtained by reducing the diameter of the trumpets. C. W. Wilbanks, superintendent, Gayle Plant, Springs Cotton Mills, Chester, S. C., replied that he had tried that system, but the trumpet wears out too quickly. He reported an instance where the use of springs on calender rolls increased breaking strength of yarn 10 lb., but said the rolls on drawing frames and slubbers must be opened to get this increase. Frank Lockman, superintendent, Monarch Mills, Lockhart, S. C., and president of the Southern Textile Association, reported that use of these springs lightened his yarn about a number. Reducing the tension by 25%, he found that the yarn still was being stretched; therefore he next took all the calender rolls and turned 0.8% of the diameter off each roll; throwing out worn and undersized rolls. After making this adjustment he equipped 153 cards with the springs, and today is getting 2 to 4 lb. better breaking strength.

Chairman Bill Morton opening the meeting

Roving will tangle at the top, according to Mr. Stutts, because of a worn builder, a worn dog or jumping bobbin gear. Another member added that he thinks improper tapering causes a great deal of tangling.

The following yardages of 30s yarn were reported by various mills as being put on 8½-in. bobbins: No. 1 flange, $1\frac{13}{16}$-in. ring—3,600 yd.; 1¾-in. ring—3,850 yd.; $1\frac{11}{16}$-in. ring—3,600 to 3,900 yd.; 1⅞-in. ring—3,900 to 4,350 yd. Mr. Morton stated that he gets 4,700 yd. of 31s yarn on a 8½-in. bobbin using a $1\frac{11}{16}$-in. ring, No. 1 flange, 5-in. traverse on first stroke. Doffing time is 7 hr. 10 min., and tailings on spoolers run 16 to 18%. Spinning frames have 19-tooth lay gears and a production roll. Humidity runs from 54 to 55%. John Lockman reported that he gets 2,500 yd. of 40s yarn on an 8-in. quill using a 1⅜-in. ring.

Mechanical blowers sometimes blow a layer of roving off the bobbin, it was reported, unless the roving is tight. The same thing occurs if there are jumping bobbins, too much lost motion in the builder shaft, or too much taper on one end of the bobbin.

Consensus was that traveler cleaners appreciably increase the life of the traveler.

Three mill men and a Clemson cadet; the mill men, left to right, are Weldon Rogers, John Lockman, and Manning Bolt

N. G. Hardie, Gossett Mills, Anderson, S. C., thinks over a hard one

QUESTIONS & ANSWERS

Tracing Cloth

Technical Editor:

We should like to secure some information regarding tracing cloth used by architects and engineers for making tracings and drawings from which blueprints are made. We should like to know the construction in the gray, the width, the sley, picks per inch, warp and filling yarn numbers, and the yards per pound. (8779)

Constructions commonly used for tracing cloth are as follows:

40 in., 76x72, 7.8 yd. per lb.
Yarns: warp 60s, filling 60s.
40 in., 88x88, 6.85 yd. per lb.
Yarns: warp 65s, filling 65s.

These cloths are also made in 44 and 49 in. widths. They can be classified as combed lawns.

Rayon Fabric Construction

Technical Editor:

Inclosed please find two pieces of cloth. We will appreciate your informing us as to how these fabrics are made? What warp and filling yarns are used? (8764)

One of these swatches is a Romaine alpaca; the other an acetate rayon sharkskin. Warp yarns of the alpaca (green sample) comprise 1 end of 150 den., 52 fil. dull acetate rayon and 1 end of 100 den., 60 fil. bright viscose rayon with 50-55 turns of twist per inch. These are combined with 12-14 turns of twist on twist. In the fabric they are arranged 1S, 1Z. The filling of this fabric consists of 1 end of 100 den., 36 fil. dull acetate rayon and 1 end of 75 den., 30 fil. bright viscose rayon with 57 turns of twist per inch. These are combined with 12-14 turns Z twist on twist.

The sharkskin (pink sample) has a warp of 150 den., 40 fil. dull acetate rayon, and a filling comprising 3 ends of 150 den., 46 fil., dull acetate rayon plied with 3½ turns of S twist per inch.

Uneven Yarn in Worsted Fabric

Technical Editor:

If you will look through the inclosed sample of worsted cheviot, you will notice there are light places in the filling. These look like light yarn, but on dissecting we do not find such a condition. When the fabric is handled where the light places are, the defects feel like tight picks. We would like to know if you can tell us what causes this. (8695)

In the first place, the yarn in this sample is uneven, both warp and filling. The yarn is two ply; both strands appear to become light at the same point, then both become heavy together. This makes it appear that the fault is with the twisters. We would suggest that you examine these machines carefully, to discover any slack bands, bobbins that are too thick, a chase that is too short, or other maladjustments.

It is also possible the looms might be causing this trouble, since there seems to be some regularity about the uneven places. The selvage appears tighter than the body of the cloth, probably caused by the fact that it or its outside edges have been reeded more ends per dent than the body of the cloth. This is not desirable and should be avoided, especially when light weaves or contrasting colors are in use. Also, at such times, temples should be set to hold the cloth as little as is feasible.

Check the loom to make sure you are getting even let-off of the warp. Also make sure it is not shedding too early. On this type of weave, the moving harnesses should meet with each other when the reed is about 1½ in. from the fell of the cloth.

Pressing Garments

Technical Editor:

Some time ago our garment division began sewing up a so-called gabardine jacket, the fabric of which consisted of a two-yard twill, which was sanforized and mercerized. In finishing this jacket we tried to use an ordinary tailor's press for the pressing operation. We immediately ran into numerous complaints from our customers, insisting that the fabric became too boardy and harsh feeling.

In trying various experiments to eliminate this condition we found that the only type of pressing which permits the fabric to retain a satisfactory handle is an ordinary pressing iron. This use of a pressing iron is entirely too costly and seems to be too old-fashioned in production today, and we would greatly appreciate any word from your technical staff which would enable us to use our regular steam pressing machine. (8753)

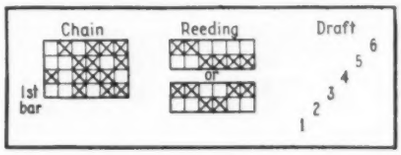
A hydraulic plate-press, using cardboard "press-boards" would be the proper method of pressing these garments. This type of press is used extensively in knitted underwear mills. It consists of a series of plates, first heated with steam, and afterward chilled with cold water. The garments are laid singly between layers of press boards. Then, the package is placed in the press and compressed. The length of time the steam should be on, while the package is under compression, will have to be determined by experiment. Also, the length of the final treatment of cold water, which gives the sheen to the garment, should be determined by experiment.

Woolen Warp Breaks

Technical Editor:

We are trying to make a ribbed woolen cloth, and are having trouble with the warp breaking. Inclosed is the layout we are using, also a swatch of cloth from the loom. Can you give us a weave and layout which will enable us to make this cloth satisfactorily? (8778)

We believe your trouble is the result of incorrect construction and firmness of weave. Your construction calls for 21 ends and 20 picks at the loom; and a loom width, including selvages, of 41.1 in., not 43 in., as you state. The count of yarn used is approximately 1.4 typp (⅞ run, 4⅔ cut). In this case, we would suggest more twist in warp yarn, for added strength. It appears also that your reed is too fine to allow four ends in alternate dents. The weave used is likely to give you trouble, since alternate picks weave plain, and thus become much tighter than the floating picks.



We would suggest the following layout: 6½ dent reed, two and four ends per dent; 44.3 in. wide in loom, including selvages; 840 ends, plus 24 ends of selvage, in warp; 20 picks per in. at loom, warp and filling yarns same as before, but with one to two additional turns per inch; weave as shown in accompanying illustration. If the reeding suggested still causes trouble, we believe use of a 9¾ dent reed, two ends per dent, would give a similar cloth and eliminate the difficulty.

Finishing Open-Mesh Cloth

Technical Editor:

We are interested in putting a size on open-mesh material as per sample inclosed. Can you give us a formula and suggested method of treating this? Also, should the cloth be dyed, or can the dye be put in with the size? (8775)

This sample appears to have been sized and dyed in one operation, using

the phthalic anhydride colors. There may be some basic color such as fuchsine, but we are inclined to believe that eosine is the chief color used. The stiffening effect has been secured with a starch base. This shows a very complete conversion of the starch; hence, the variety used was either a dextrin, an oxidized starch, or a chlorinated starch. Whatever has been used belongs to the class known as thin-boiling starches or starch gums.

We are of the opinion this finish can be duplicated by use of any of a number of starch-base gums or very thin-boiling starches on the market. Experimentation will have to be made with the material selected and the equipment at hand to obtain the desired effect. We would start with 1 lb. of starch-base gum to 1 gal. of water. The gum and water are partially mixed in the cold state, then heated to or nearly to the boil. When the solution has become water white it need be cooked no longer. The dye is then added and dissolved. The solution should be applied hot, and should not be too viscous. Otherwise it will fill the interstices in the fabric.

The goods are run through a trough and squeeze roll full-width, thence onto a tenter dryer, where they are dried. It will probably require two or more immersions in the bath and over the tenter to build up the desired stiff finish. Use of sugar or glucose with the starch-base gum may also prove to be desirable.

Holes in Knitted Fabric

Technical Editor:

We are having trouble from holes in a fabric knit on a ten-cut machine. Do you think the holes are caused by use of wrong size of yarn, wrong size of hook on needles, or some other reason? (8786)

It is difficult to say just what is causing the holes without seeing the cloth or knowing the way your machines are set. If only your ten-cut machines are causing the trouble, it is probably a combination of heavy yarn, tight stitch and large hook needles that is causing your trouble. On the other hand, if you are having the same trouble with your eleven and thirteen-cut machines, it is not likely that it is the size of the yarn or the size of the hook on the needles, because the yarn you are running on these machines is the average yarn count for these cuts. Also the gage of the needle hook is not too large.

It may be that you are running too tight a stitch on these machines.. If so, when the needle draws through the loop to make the next stitch, the loop may be too small for the needle to go through easily. If there are any weak spots in the yarn, this will cause a hole. There are several other possible causes of these holes. For example, as when knitting a very tight fabric, there is a great deal of strain on the needles, which weakens them, and often a needle just slightly imperfect will make occasional holes in the fabric. Also, if the yarn guides are not set properly or if they are slightly rough, they would cause holes in the fabric.

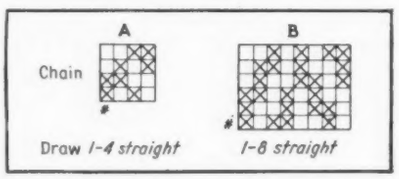
For plating 300-den. rayon with 30/2 Durene, we suggest that you use an eleven-cut machine and a 24-gage hook needle. This should work satisfactorily if the stitch is not too tight.

Improving Blanket Sample

Technical Editor:

Would a softer-twist filling in the attached blanket sample give us a more lofty nap, or do you think the nap on the inclosed sample is sufficient? The blanket in question is all wool. (8777)

Examination indicates this fabric has not received proper treatment in finishing. We would not advise any change in the filling yarn, but suggest you take a few turns of twist out of the warp yarn, while still taking care not to spin it so soft that you experience difficulty in weaving. To finish 72 in. wide, the warp should be laid in the loom 88–90 in.



In finishing, run the piece through the fulling mill, so adjusting the weight as to allow the cloth to shrink in width and length together. After the piece has shrunk to 76–77 in., wash and extract. Run the piece over the napper wet, starting light and working down into the fabric gradually. By following this procedure you should obtain an even cover. When the desired amount of nap has been produced, run the piece over a dryer and dry at 75½–76 in. After drying, run the cloth again over the napper. You should experience little difficulty in obtaining a good nap on both face and back of this fabric.

We suggest you try the weave shown at *A*, as it will give a firmer finished cloth. Weave *B* will give a finished cloth with more bulk, if that is desired.

Slasher-Cloth Construction

Technical Editor:

Inclosed are two samples of slasher cloth, one marked "our goods," the other "goods to be matched." Please advise us in what way we can change our cloth to get the finish, feel, and density of the fabric to be matched. Both samples are all wool; ours is all virgin wool. It is our opinion that our filling does not have enough twist; and also that the cloth may not be fulled sufficiently. Would extra fulling give the cloth the felted appearance of the sample to be matched? (8773)

The difference in finish and handle is due principally to construction and twist factors. The "goods to be matched" sample is made of a finer yarn, approximately 3.6 typp (2¼ run, 12 cut), and finished 32 ends and picks per inch, which gives a calculated loom weight of 18.2 oz. The sample marked "our goods" is made with 2.8 typp (1¾ run, 9.5 cut) yarns and finished 29 ends and picks, which gives a figured loom weight of 21 oz. Obviously, different degrees of shrinkage for each construction are necessary if the same finished weight is desired. Assuming the dead loss in each case to be 20%, and the finished shrinkage to be 5%, the first cloth would finish between 15 and 16 oz., and the latter 17 to 18 oz. It will thus be seen that the loom weight of the latter is excessive for 15/16 oz. finished, and at the same time cannot be fulled sufficiently to obtain the cover and density of the original fabric.

The following modified construction we believe will remedy the trouble: 6½ reed, 4 ends per dent, 70 in. wide in loom, 30 picks per in.; warp and filling yarns, 3.6 typp (2¼ run, 12 cut); loom weight 18.2 oz., dead loss 20%, finished shrinkage 5%; finished weight 15/16 oz. Same stock and weave as used.

Softer spun yarns, especially in the filling, would in our opinion be of assistance in increasing the density and fullness of the handle. Increasing the twist would have the opposite effect.

"New Knitted Clips" Are "Wool" Says F.T.C.

In this column last month in answer to a question on the classification of garnetted stock made wholly from new sweater clips which would comply with the new Wool Labeling Act, we hazarded a belief that the clips might reasonably be classified as "reprocessed wool." However, such is not the case, and the Federal Trade Commission on Jan. 15 ruled that such knitted clips, *if made wholly of virgin wool,* might be designated by the unqualified term "wool."

For the information of readers we quote the F.T.C. statement verbatim: "The director of trade practice conferences of the Federal Trade Commission, in reply to numerous inquiries regarding the proper classification of unused 'new knitted clips' made wholly of virgin wool, has expressed the opinion that such clips may be classified and designated by the unqualified term 'wool'."

STAPLE COTTON FABRICS

By JOHN HOYE
Fabric Technician with W. Harris Thurston, New York

This fifty-eighth installment of Mr. Hoye's series of articles on staple cotton fabrics — which began in the January, 1936 issue — concludes the discussion of cut-pile fabrics and starts that of filled and coated fabrics

Jacquard Upholstery Plush

THESE FABRICS, used chiefly for furniture upholstery and casket coverings, are generally made with cotton back and cotton or rayon pile, and usually are piece dyed. They frequently have elaborate floral designs which stand out above a no-pile or sheared ground.

The number of different pile yarns used in the warp determines the designation of the fabric as single-frame, two-frame, three-frame, etc. A fabric with only one pile warp yarn is single frame, one with two pile yarns is two frame, and one with three pile yarns is three frame. The single- and two-frame plushes are most common. Single-frame plushes are woven with cotton back and either all-cotton or all-rayon pile, or with a ply yarn composed of cotton and rayon. Where designs are desired in single-frame fabrics, they are achieved by weaving the figures in pile and leaving the rest of the design with no pile, or by weaving an all-over pile and shearing to form a pattern.

Two-frame plushes are woven with cotton back and two kinds of pile yarn; i.e., rayon (filament or spun) and cotton, or two different ply yarns, such as cotton-viscose and cotton-acetate. Patterns are formed by weaving the figure pile of one yarn and the ground pile of the other. When the fabric is piece dyed, the difference in the dyeing of the different fibers brings out the design. Cut-outs frequently are used between figure and ground to set off the motif more distinctly. Cut-outs also are used for such purposes as making veins in leaves and flowers.

Jacquard-woven two-frame upholstery plush; 54 in.; 75x26 cotton ground; 30 ends per in. pile, 15 ends spun rayon, 15 ends cotton-acetate ply; 16.8 oz. finished

Three-frame plushes are made in the same way as two-frame fabrics, except that a third pile yarn, different from the first two, is added to increase the effects obtainable. For example, in a floral design the ground can be all cotton, edges of leaves can be cotton-viscose ply, and insides of leaves can be woven in cotton-acetate ply yarns. When the cloth is dyed, a shaded effect will result from the difference in dyeing properties of the yarns.

Examples of jacquard upholstery plush—piece dyed: Single frame—cotton back, rayon pile; 54 in.; 74x26 ground construction, 22/2 warp, 12/2 filling; 15 ends per in. pile, 900-den. rayon.

Two frame—cotton back, cotton and rayon pile yarns; 54 in.; 75x26 ground construction, 22/2 warp, 18/2 filling; 30 ends per in. pile, 15 ends 14/2 viscose spun rayon and 15 ends cotton-acetate ply (composed of 16/2 cotton and 150-den. acetate yarn).

ALL-COTTON JACQUARD PLUSH, PILE RUG TYPE FABRICS. These usually are two- or three-frame plushes made of all-cotton yarns in contrasting colors and are heavier than upholstery plushes. Single-frame fabrics are also made for rugs, the pattern standing out against a cut out ground, sometimes called a "carved pattern."

Filled and Coated Fabrics

COTTON FABRICS are used as the base for filled and coated cloths. The filled cloths include tag, sign, poster, label, tracing, and bookbinder's cloth; some of the coated fabrics are those treated with pyroxylin, resin, lacquer, rubber, and linseed oil.

Sign cloth is generally the cheapest of the filled fabrics; loosely woven cheese cloth, or medium count print cloth or sheeting, is bleached and heavily filled with starch and china clay. Better quality sign cloth is pyroxylin treated, is waterproof and vermin-proof, and is made 36 in. wide in white and yellow. It is used for theater, forestry, trespassing, and other signs, children's picture books, banners, etc.

Made 36 in. wide, generally in white, tag cloth is based on bleached, filled, and starched print cloths and sheetings. Better qualities are pyroxylin treated, and are waterproof and vermin proof; as the name indicates, tag cloth is used largely for identification tags.

Poster cloth has a smooth face and a heavy back-filled starch finish; it usually is made 36 in. wide of bleached or unbleached drills. When pyroxylin impregnated, it is weather- and vermin-proof and is used for painting and printing display signs and outdoor advertising posters.

Label cloth is used for tags on bedding, upholstered furniture, etc., and for maps and cloth stationery. The base fabric is print cloth; the finish is light and flexible.

Regular bookbinding cloths have firm, flexible finishes with a rough, smooth, glazed finish, usually on both sides, or with embossed designs which simulate leather grains, woven patterns, or other decorative effects. The basic fabrics are print cloths, sheetings, osnaburgs, or light-weight flat ducks; the treatment consists of filling or impregnating with starch, clay, and pyroxylin.

Dyed, printed, and embossed design on rayon-pile plush; 54 in., 48x48 cotton ground, 24 ends per in. pile, 16.8 oz. finished

COTTON SECTION—Chapter XIV—Continued

By Ivar Moberg

Temples

A RING TEMPLE is shown in Fig. C89. This is a right-hand temple with thread cutter. While ring temples are not very common in cotton weaving, they are used on certain classes of goods. Usually, they are of the non-reciprocating type, but they may have single or double rolls with seven or nine rings on each roll. Rings are of bronze with needle-point inserts of various length and density. They rotate on an incline, so as to hold the cloth out to reed width, or very nearly so. The rings are of various diameters; this tends to equalize the pull of the rings and eliminate temple marks in the cloth.

These temples are non-reciprocating and, to obtain maximum efficiency, must be set as close as possible to the reed at front center. In setting them, it should be borne in mind that they seldom are equipped with temple heels, and the danger of temples striking the reed is therefore increased. On lightly picked fabrics, the momentum of the lay often carries the reed farther forward when the loom is running than is the case when the loom is at a standstill. Allowance should be made for this additional forward movement when setting the temples to the reed.

It is advisable to check the closeness by removing the thread cutter and placing one finger on the temple bar. If the reed strikes a temple, this can be felt by the jar of the bar. Another method is to bend a strip of cardboard and place it between the reed and the temple. When the loom is running, if the reed strikes a temple, the fact can be either felt or seen by means of the cardboard strip. Also, check to see that the thread cutter is withdrawn sufficiently into the temple to clear the reed.

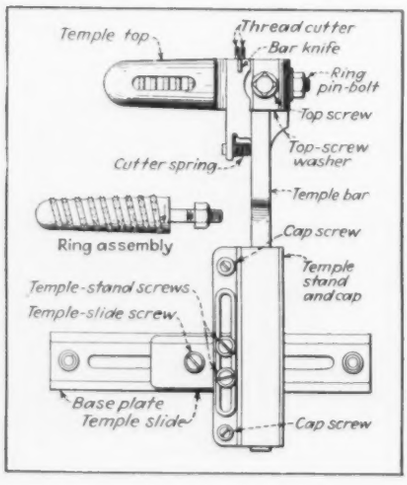


Fig. C89. Ring temple

Other settings of ring temples are similar to those described under reciprocating temples. Non-reciprocating temples do not require any lubricant, with the exception of the thread cutter, which should be lubricated with light grease at intervals.

Selvage temples are used on certain classes of fabrics on which ordinary temples can not be used, since they might dislocate the warp or filling yarns. Such temples do not extend into the fabric, but hold the cloth out from the selvages; the latter being as a rule of heavier and firmer construction than the body of the cloth, will withstand the pull by the temples. Fig. C90 shows a selvage temple with thread cutter. This temple is non-reciprocating and has a single bronze ring with inserted needle points. The ring revolves on an incline and therefore actually stretches the cloth as it revolves. Length and density of needle points vary with different kinds of fabric.

Setting and adjustment of these temples is similar to that of ring temples, described above. Lubricant on rings should be avoided, as it is likely to mark the selvages. If the selvages seem to labor in pulling the rings around, a light rubbing of the ring sides on fine emery cloth will usually make the rings turn more easily.

In using selvage temples, it is important that selvages be tight at all times. If they are permitted to run loosely, the temples will gradually loose their grip and the cloth may snap free and cause the selvages to be torn.

CLOTH DEFECTS caused by faultily adjusted temples are often of major importance, and include the following:

A. *Cut filling.* The filling is cut at or near the selvages as the reed beats it into the cloth. This results from the fact that temples do not hold the cloth out to the reed width, due to one or more of the following causes: temples too far from reed; temple not parallel, but pitching toward reed; temple rolls placed in temple with needles pointing toward center of loom; temple rolls not turning freely on roll pin-screw; temple too far back from fell of cloth, due to insufficient reciprocation and/or excessive beat back of cloth; needle points too short.

B. *Button holes on selvages.* Identified by broken or cut warp and/or filling yarns. It may result from one or more of the causes given under cut filling, or it may be caused by bent or broken needle points on rolls; or temples not parallel, but pitching away from the reed.

C. *Temple scratch-up.* Recognized by appearance of a nap-like fuzz on that side of the cloth which is against the temple roll, and occasionally on the other side of the cloth. This may be due to bent or injured needle points on rolls; temple not parallel, but pitching away from reed; excessive reciprocation of temple; temple rolls not turning easily; temple top too close to needle points.

D. *Temple marks.* Recognized by badly dislocated warp and/or filling yarns. The defect can be attributed to one or more of the following: temples pitching away from the reed, insufficient or excessive reciprocation, temple roll not turning freely on roll pin-screw, needle points rubbing against temple tops, bent or injured needle points, holes in temple rolls badly worn, needle points too long and of insufficient density.

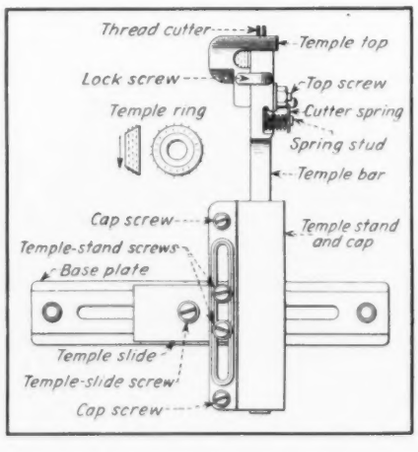


Fig. C90. Selvage temple

WOOL SECTION—Chapter XI—Continued

By Eugene P. Schremp

Motor Drives

THE MOTOR on a Crompton & Knowles W2 or W3 loom has a tapered shaft and the nut that holds the motor gear must be kept tight. If the gear runs loose for any length of time, the shaft will be scored and it will be almost impossible to keep the gear tight. An easy way to tighten this nut is to put another motor gear in mesh with both friction gear and motor gear, so that the gears will be locked; then the nut can be tightened with a wrench. If one tries to do this job without use of another motor gear, it is difficult to keep the shaft from turning.

CROMPTON AND KNOWLES W1 looms (originally known as Verybest) have bottom shafts with four roller bearings, one at each end, and two in between. The roller bearings run directly on the bottom shaft, but have steel sleeves between the rollers and the bearing boxes. These roller bearings must be properly lubricated or excessive wear on the bottom shaft will result. They should be oiled once a day. Care should be taken to keep the oil holes clear since, if they become plugged, the oil does not reach the bearings. When a loom is allowed to run this way, bearings will wear the bottom shaft and cause so much play between crank-shaft gear and bottom gear that broken teeth may result. The picking motion may also be affected to such an extent that the loom will be continually banging off.

As a rule, it is the roller bearing at the drive side that wears the shaft. A new bottom shaft and roller bearing can be installed; however, this would be quite expensive, both in parts and also in labor. To make such a repair, the bottom shaft would have to be removed, and the drive gear and picking cams pulled off and later fitted and keyed to the new shaft. A better way of repairing this damage is to install a split brass bushing, such as can be obtained from the loom's builder. This bushing is made to take the place of the roller bearing and will last for years if properly lubricated. It is longer than the roller and if the shaft is worn there is enough bearing surface to take care of the wear.

To install one of these brass bushings, the roller-bearing assembly must be removed. This can be accomplished by taking off the bearing cap and bending the steel sleeve with a pinch bar until the sleeve is spread enough to slip off the shaft. The roller bearing and the oil-retainer plates can be cut off with a sharp cold chisel. These parts will probably be worn so badly that they can not be used again anyway, so it is not worth while pulling the bottom-shaft gear off in an attempt to save them.

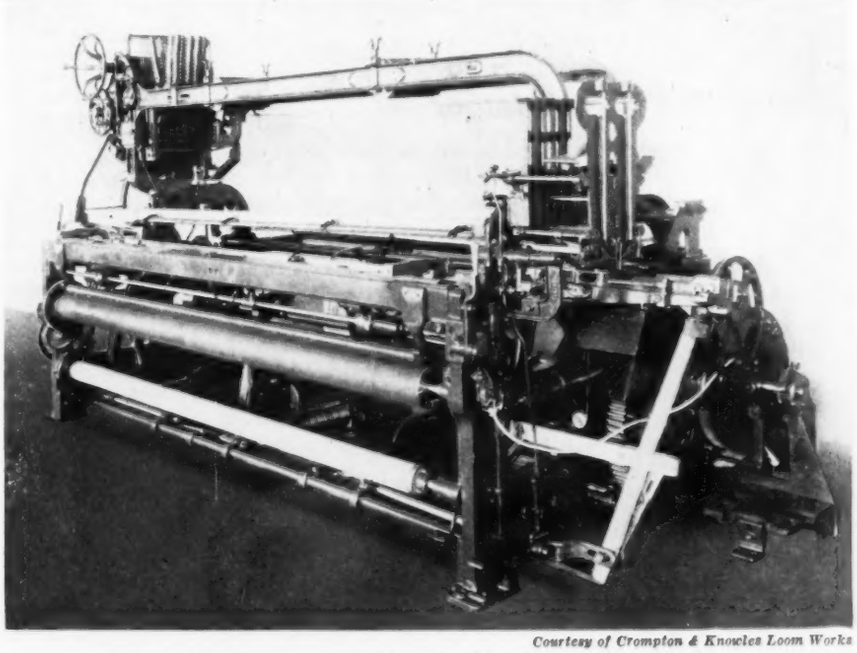
The brass bushing is in two pieces and the lower half can be slid under the shaft. The top half, which has oil holes, is fastened to the bottom with four machine screws. When the box cap is put on, four long ¼-in. bolts go through the box and the brass bushing, and hold it in place. After everything has been tightened, play between top and bottom gears should be checked. If there is too much play, the bottom box should be raised by putting a shim under it. On the other hand, these are cut gears and should not be meshed so deeply that they bind at any point. The crankshaft gear can be turned for timing; to do this it is necessary first to loosen the four bolts that hold the gear to the hub.

The motor drive on the Verybest and W1 looms is known as a compound or auxiliary drive. There is a tapered-roller thrust bearing at each end of the auxiliary shaft. These bearings should be greased when a new warp is put in. The friction gear has a ball thrust bearing, which should be greased at the same time. The friction gear has an oil reservoir, which should be kept filled to the level of the shaft at all times.

In removing a friction plate or pinion gear, it is important that the loomfixer have the proper tools and understand the proper method. First, the motor must be removed, care being taken not to damage the electric cable. There are four ¼-in. bolts that hold the grease retainers at each end bearing. In removing the whole assembly, it is advisable to loosen only the two nuts at the bottom of these grease retainers, as there are slots in the bottom half. The top half has holes and the bolts go through the bearing cap. When the drive assembly is taken out it will all be in one unit.

The friction gear is in two parts. The gear part is held in place by four capscrews; if this is the only part to be replaced, the gear part can be taken off by removing the capscrews. If a friction plate or friction-gear pinion needs to be replaced, it is necessary to remove only one of the end bearings. It is not advisable to remove the inside bearing next to the pinion gear, as the bearing cone is pressed up to a shoulder on the auxiliary shaft. This bearing can only be pulled off by using a good gearing puller, and even then it is quite difficult to get a good grip on the cone. A fixer should never attempt to remove this bearing with a cold chisel and hammer, as the bearing cones break easily.

(*To be continued.*—Editor.)



Courtesy of Crompton & Knowles Loom Works

Fig. W13. Crompton & Knowles Verybest automatic loom

NEWS OF THE MONTH

Opp Case Defeated in Supreme Court

On Feb. 3 the Supreme Court unanimously upheld the constitutionality of the Wage-Hour Law in a decision for the Government in the Opp Cotton Mills case. General Philip Fleming, Administrator, pronounced the ruling a "go ahead" signal for plans to raise the wages of thousands of workers. He said the statutory minimum wage has already brought $65,000,000 increased wages to workers, and that increases by administrative order have added $35,000,000.

Concerning textiles, the decision undoubtedly will encourage the Administrator in his prescribed duty of convening industry committees to review the various wage rates set by administrative order. He already has indicated his intention of appointing committees to study the seamless hosiery and "textile" fields.

In reaching the Wage-Hour decision the Court confirms Chief Justice Hughes' remark that the Constitution is what the Justices say it is. For the Court reversed its own Hammer-Dagenhart decision of 1918, in which it denied the power of Congress to forbid child labor; the Wage-Hour Law has specific provisions against child labor. It is significant that, in this unanimous decision, the Court also confirmed the New Deal theory that Congress can, under the "commerce" clause, regulate *intrastate production* which *affects* the flow of interstate commerce.

The decision has no bearing on the question whether the time-and-a-half provision of the Wage-Hour Law should be suspended for the duration of the labor skill shortage. This problem may become acute and have to be dealt with.

N.A.W.M. Annual Meeting Feb. 19

National Association of Wool Manufacturers is holding its annual meeting on Feb. 19 at Hotel Commodore, New York. The executive business session in the morning will be followed by luncheon at which scheduled speakers include Brig. Gen. C. L. Corbin, Quartermaster Corps, U. S. A., and Frank W. Lovejoy, sales executive, Socony-Vacuum Oil Co., New York.

Discuss Silk-Rayon Merger

A meeting was held late last month between representatives of the National Federation of Textiles and the National Rayon Weavers Association to explore the possibilities of an eventual merger of the two groups. No decision was reached, but the way was left open for further discussion.

To Review Wage Minima

Appointment of industry committees to review the 32½¢ minimum wage rates set by the administrator for cotton textiles and seamless hosiery is being considered by the Wage-Hour Division of the Labor Department. The Textile Committee will not be convened until some time next spring. The Hosiery Committee will be appointed earlier, but the time is not yet definite nor is the time for the convening of this committee.

Meanwhile, the division is preparing to make a survey of factors and conditions affecting the setting of wage rates, and its report will be turned over to the committees when they meet. The committees will obtain such additional information as they may want, through hearings and otherwise.

This will not be a reconvention of the old committees. They no longer exist. But the new committees probably will include some of the members who served previously.

It will be recalled that the administrator, when he disbanded the textile committee, recommended that a new one be appointed within six months to review the field. No official comment could be obtained on the likelihood of the 32½¢ rates being increased.

General Philip Fleming, administrator, told TEXTILE WORLD that he is going to ask a committee review of seamless hosiery simply because its wage order was issued first, Sept. 18, 1939.

Two recent events have contributed to the prestige of the Wage-Hour Division. One of these events is the Supreme Court's decision for the Government in the Opp Cotton Mills case. The other is the promotion of Col. Fleming to the rank of Brigadier General, which arrived from the White House while TEXTILE WORLD's representative was talking with him.

Try for Further Cotton Average Cut

Disappearance of foreign markets for cotton has caused the Department of Agriculture to seek a method of curtailing the 1941 crop, estimated now at 12,000,000 bales. The Agricultural Adjustment Act does not provide for any further reduction. Therefore, the Department must depend upon voluntary curtailment. Under the plan just announced, the farmer will receive, in return for his share of a 1,000,000-bale reduction, 10¢ a pound in stamps good for the purchase of cotton cloth in the market. Thus, the Department hopes to

SHANDRA, new spun-rayon fabric, is featured in this new dress, offered at $7.95 by Lord & Taylor, New York retailer. Fabric was developed by McCampbell & Co., New York, is woven by Southern-Brighton Mills, Shannon, Ga., and is composed of 50% viscose staple and 50% Teca, Tennessee Eastman's crimped acetate staple. Garments carry seal of approval of American Institute of Laundering, and are said to stand laundering without shrinkage. Shandra cloth will later be offered in men's and boy's bathrobes, sport shirts, slacks, and other garments.

YELLOW EVENING JACKET of "Raynille," new Crown-Tested spun-rayon hand-knitting yarn by Bernat. Raynille will be featured for the popular "bulky" garments, including both evening and sports sweaters.

spread cotton cloth consumption among low-income people, while cutting crop acreage in face of the world situation.

Greenville Show Nears

Two hundred exhibitors will be represented at the 14th Southern Textile Exposition which opens in Greenville, S. C., March 31, and continues throughout that week. Meetings scheduled include a Greenville Rotary Club luncheon on Wednesday, Apr. 2; a luncheon under the auspices of the Greenville Section of the American Society of Mechanical Engineers, with William A. Hanley, president of the society, as guest of honor, on Thursday, Apr. 3; and a joint luncheon attended by members of the Southern Textile Exposition, Textile Operating Executives of Georgia, and Alabama Textile Operating Executives, on Friday, Apr. 4. Jesse Jones, Secretary of Commerce, will appear at opening of show.

Japan Quotas Stand

Assurances have been received in this country that Japan will not take advantage of the fact that the agreement between the two countries limiting the export of cotton goods to the United States expired Dec. 31 and has not been renewed, according to Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, and one of the signers of the original agreement in 1937. "These assurances mean that the Japanese will continue to observe the quota restrictions in effect for the last year, and no alarming influx of Japanese cotton goods may be feared," said Dr. Murchison.

Pan-American Congress

The Pan-American Cotton Congress, which will meet in Memphis, Tenn., sometime this summer, will have a successful gathering if the ability of the various committees is any indication. George J. Eckert of Memphis is general chairman. Textile men who will serve on committees include: C. F. Broughton, vice-president of the Cotton-Textile Institute, New Bedford, Mass.; Donald Comer, chairman of the board, Avondale Mills, Birmingham, Ala.; F. W.

CLINTON

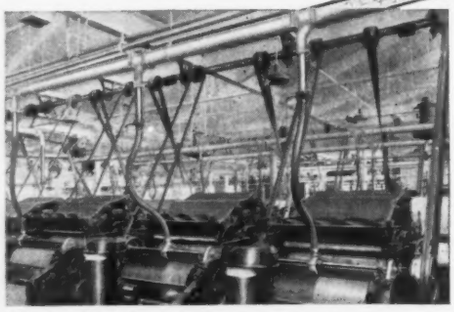
STARCHES

FOR ALL
TEXTILE PURPOSES

QUALITY
AND
SERVICE

CLINTON
COMPANY

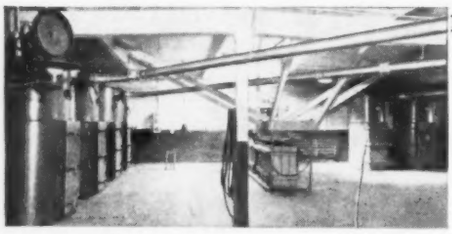
CLINTON - - IOWA



The Abington Vacuum System is here used to 1. Strip, 2. Collect Waste, from layout of 554 cotton cards, centralizing all waste in the Waste House below.

VACUUM STRIPPING ALSO A COMPLETE JOB OF WASTE COLLECTING

In addition to stripping cards at 60% to 90% savings, Abington Vacuum stripping is used by many mills as a complete Waste Collecting System, collecting flat strips, card fly, picker motes, comber noils and performing various other operations.



Waste house with receiver accommodating strips and waste from 554 cards and complementary pickers.

By utilizing the vacuum of our system to its full possibilities, mills greatly simplify the task of conveying process waste to the distant location often selected for the waste house. Eliminated are the hand work and confusion of raking the day's accumulations, trucking it through the mill, sweeping up afterwards. All waste is picked up by the System from the machines, or at Waste Stations immediately adjacent. Location of waste house 1,000 feet or more from mill, is possible.

Showing ease and cleanliness of collecting card screenings. This same method is used for picker motes and comber noils. Flat strips are handled from Waste Stations in the card room.

WIDELY USED IN WOOLEN MILLS

Send for new Catalog describing
Cotton and Woolen applications

ABINGTON

ABINGTON TEXTILE MCHY. WKS., ABINGTON, MASS.

Card Strippers — Yarn Dyeing Systems — Weaver's Knotters

OFFICES AT BOSTON, MASS. • CHARLOTTE, N. C.

Symmes, president of the American Cotton Manufacturers Association, Greenville, S. C., and president of Union-Buffalo Mills Co.

British War Worsteds

The largest single order for serge for British uniforms has been placed in Yorkshire and the cloth is now being woven for manufacture into 5,000,000 blouses and 6,000,000 pr. of trousers for spring delivery. This is on top of a previous total of 12,500,000 blouses and 14,500,000 trousers since the war began. In addition to the spring orders, there are also contracts for 1,500,000 more Army greatcoats.

Despite the size of these contracts, they represent only 6% of Britain's output of wool goods, and, with strict control over domestic needs, there remains ample plant and personnel for the more usual cloths in demand for export.

Knit Goods Firms' Profits

The combined net income of 19 manufacturers of knit goods, before deduction of interest on long-term borrowings and income taxes, on the average total capital of $79,971,779 employed by the companies in 1939, was $7,905,588, or a rate of 9.9% on the total employed capital for the year, according to the Federal Trade Commission. Nine of the corporations had rates of return higher than the average, the rates ranging from 10.6% to 28.8%. Rates of return for the other 10 corporations ranged from a loss of 1.2% to a profit of 9.3%. Only one corporation had a loss.

The net income on the average corporate net-worth investment, or stockholders' equity, after provisions for income taxes, was $6,383,248, which was 8.2% of the stockholders' investment. The range in rates on this basis was from a loss of 1.4% to a profit of 22.4%.

This information is contained in a report which is one of the commission's series in its project for the collection of annual financial statements from corporations in many industries of the country.

N. C. Style Show April 24

The annual style show will be held by the Textile School of North Carolina State College at Raleigh, N. C., on Thursday, April 24. This is the fourteenth annual competition for prizes in which approximately 160 girls from ten North Carolina colleges for women will design and make costumes from fabrics designed and woven by textile students at North Carolina State College.

NEW SPRING LINE of neckwear fabric, called Felgate Foulards, has been introduced by Celanese Corp. of America. Although directed to the popular price field, the definitely British patterns are of a type customarily found only in the more exclusive shops which feature imported lines.

TEXTILE CALENDAR

Philadelphia Textile School Alumni Association, annual banquet, Penn Athletic Club, Philadelphia, Feb. 28, 1941.

Committee D-13, ASTM, Mayflower Hotel, Washington, D. C., March 5 to 7, 1941.

Textile Operating Executives of Ga., spring meeting, Georgia School of Technology, Atlanta, Mar. 15.

National Association of Waste Material Dealers, 28th annual convention, Hotel Sherman, Chicago, March 17 to 19, 1941.

Southern Textile Exposition, Textile Hall, Greenville, S. C., March 31-April 5, 1941.

Knitting Arts Exhibition, 37th annual show, Commercial Museum, Philadelphia, April 21 to 24, 1941.

Textile School of North Carolina State College, style show, Raleigh, N. C., April 24, 1941.

National Cotton Week, May 16 to 24, 1941.

Cotton Manufacturers Association of Georgia, annual meeting, Cloister Hotel, Sea Island, Ga., May 29 to 31, 1941.

American Association of Textile Chemists & Colorists, annual meeting and convention, Carolina Hotel, Pinehurst, N. C., Oct. 31 and Nov. 1, 1941.

Oppose Processing Tax

A meeting was held in Charlotte, N. C., on Jan. 10, under sponsorship of the AAA and was attended by approximately 300 representatives of cotton manufacturing concerns, farmers, textile associations, and Government agencies. Spokesmen for the textile interests were A. W. Fisher of Cannon Mills, Kannapolis, N. C., William A. Floyd of Greenville, S. C., and A. K. Winget, Albemarle, N. C. All three went on record as interested in the welfare of cotton farmers but vigorously opposed to the processing tax.

Rug Makers Agree to Consent Decree

As a result of the investigation by the anti-trust division of Department of Justice into the activities of 14 rug and carpet manufacturers, together with the Institute of Carpet Manufacturers of America, a complaint alleging conspiracy to fix prices and production quotas was filed in the Federal Court in New York. At the same time the anti-trust division stated that the defendans in this case had agreed to submit to a consent decree prohibiting the practices named in the future. This action does not involve any admission of past wrongs by the defendants. The complaint not only brought charges against the 14 manufacturing companies, but also named an officer of each of these companies.

Fiberglas Uses Outlined

Use of Fiberglas in combination with natural fibers in curtain and drapery fabrics to prevent stretch, increase strength, and prolong life, was suggested by Games Slayter, vice-president of Owens-Corning Fiberglas Corp., at a recent meeting in New York of the American Association of Textile Technologists.

Current textile uses of Fiberglas, Mr. Slayter said, include "ignition cables, awning materials, neckties, and tablecloths."

English Textile Magazine Issued Despite Bombing

Silk and Rayon, the British monthly magazine, suffered the complete destruction of its editorial and publishing office in Manchester, England, last December by Nazi bomb and fire. All its records were destroyed, but the January, 1941, issue came out only a few days behind schedule. The organization is located in new quarters at 44 Brazennose

Increase { "DEGREE OF MERCERIZATION" SPEED OF PRODUCTION SALABILITY AND PROFITS

with

DYPENOL

A HARTEX PRODUCT

THE IDEAL *Mercerizing* PENETRANT

THE addition of DYPENOL to the caustic solution will efficiently and economically increase the "degree of mercerization". DYPENOL offers as well many other advantages heretofore unobtainable with the ordinary mercerizing penetrant. We list only a few of these:

- **Completely eliminates boil-out or wet-out, with attendant savings in labor, steam and chemicals.**
- **Imparts greater uniformity, strength, elasticity, lustre and softness to yarn.**
- **Easy to use, easily washed out of goods.**
- **Does not form a scum in the caustic or lose its wetting power on standing.**
- **Has a low exhaustion rate, only slightly absorbed by cotton.**

CONSULT US: ***DYPENOL can add dollars to your processing profits. Write for your copy of our new bulletin "Mercerizing and DYPENOL".***

HART PRODUCTS BASED ON RESEARCH

★DYPENOL enables piece-goods mercerizers to meet new government specifications as indicated by maximum BARIUM ACTIVITY NUMBERS*.

*Write for method of determining BARIUM ACTIVITY NUMBERS.

THE HART PRODUCTS CORP.

MANUFACTURING CHEMISTS

1440 BROADWAY • NEW YORK, N. Y.

Bleach safely and efficiently with Hydrogen Peroxide H_2O_2

YOU'LL find the 100 volume hydrogen peroxide produced by Pennsylvania Salt Mfg. Co. an effective, economical and reliable bleaching agent for all kinds of textile fibers and fabrics. This hydrogen peroxide is highly stable, with uniform oxidizing power.

You can obtain Pennsylvania Salt hydrogen peroxide in 120 lb. glass carboys or 250 lb. aluminum drums from a convenient warehouse. When you have a bleaching problem or any question involving the use of our products, be sure to take advantage of our technical assistance.

PENNSYLVANIA SALT MANUFACTURING CO.
Widener Building, Philadelphia, Pa.
New York • Chicago • St. Louis • Pittsburgh • Tacoma • Wyandotte

Other Pennsylvania Salt Chemical Products for the Textile Industry

Caustic Soda
Soda Ash
Sulphuric Acid
Hydrochloric Acid
Sodium Hypochlorite
Carbon Bisulphide
Ammonium Persulphate
Anhydrous and Aqua Ammonia

PENNSYLVANIA SALT MANUFACTURING COMPANY
Chemicals

St., Manchester. Harry P. Curtis, editor, asks correspondents and contributors to duplicate if possible recent communications. He assures readers that current difficulties will be overcome rapidly and closes with typical British sportsmanship "wishing you all good health and best of luck."

To Hold Symposium on Wetting Agents

A symposium on wetting agents will be the feature of a meeting of the American Section of the Society of Chemical Industry, jointly with the American Institute of Chemical Engineers, to be held at 8 p. m., Feb. 28, at the Chemists' Club, New York. Topics to be discussed are: "Theory of Wetting Agents," by Prof. F. E. Bartell, University of Michigan; "Structure of Wetting Agent Molecules," by C. R. Caryl, American Cyanamid Co.; "Uses of Wetting Agents," by Dr. Samuel Lenher, E. I. du Pont de Nemours & Co. A dinner precedes the meeting.

All Storage Wool Here by June 30

First consignments of the 250,000,000 lb. (about 840,000 bales) of British-owned Australian wool for storage in the United States have arrived. Two shipments, one of 2,500 bales and another of 18,706 bales, reached San Francisco and were shipped by rail to Texas city warehouses where it is planned to store all the wool that is docked on the West Coast. In addition, about 65,000 bales are afloat enroute to this country at this writing. It is expected that all the wool will be here by June 30. The rate of arrival will be about 150,000 bales per month.

Scheuer's Textile Chart

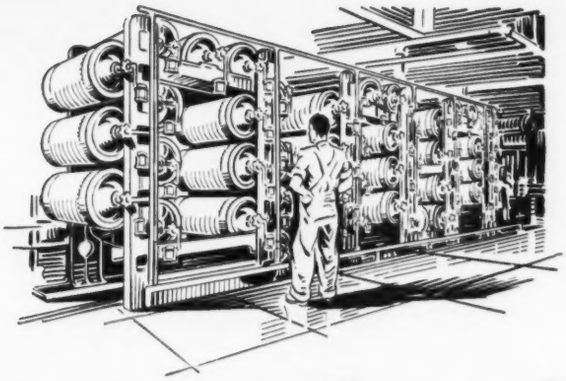
Scheuer & Co., textile brokers and con ultants, New York, are distributing the 1940 edition of their Comparative Rayon and Cotton Textile Chart. This has been issued for many years and the series forms a concise record of market data.

A.A.T.C.C. Notes

Dyeing of spun rayon with vat and fast-to-light dyes was discussed by Ormand W. Clark, Calco Chemical Division, American Cyanamid Co., at a meeting, held Jan. 24, of the New York Section, American Association of Textile Chemists & Colorists.

At the winter meeting of the Piedmont Section, held

TO PUT THAT final, ultimate touch of showmanship to a promotion of bedspreads, Bates Fabrics, Inc., New York, N. Y., made use of a novel "luggage style" box manufactured by Hinde & Dauch Paper Co., Sandusky, Ohio. Within the corrugated box, three numbers in the line are individually packed in decorated boxes.



• • • pays for itself on one big order!

"Our new Butterworth Dryer not only paid for itself on one big order—it actually got us the order.

"Drying represents nearly 40 per cent of our finishing costs . . . and the new Butterworth Dryer triples our output. The new installation was scarcely completed when we quoted price and delivery date on one big job that beat all competition. With our old equipment, our cost of production would have shut us out of the picture.

"We count on keeping the new Dryer in continuous operation on profitable business for many months to come."

A bottle-neck in the finishing room is losing orders and profits for many an otherwise progressive mill.

Bleaching . . . boiling-out . . . drying . . . calendering . . . dyeing. Each process in the wet end of textile finishing calls for efficient modern machines. With business as it is today, new equipment pays for itself two or three times as fast as it does under ordinary conditions.

For more than 120 years, our entire time and effort have been devoted to promoting efficiency in every process of the wet end of textile finishing. We know all the small advantages in production costs which, collectively, make the difference between profit and loss.

Butterworth Engineers are constantly working with leading textile finishing plants—helping to achieve greater yardage, better finishes, higher speeds and lower production costs.

Let us work with you in determining whether modern Butterworth Machines or improved plant layout will help you to improve your competitive position. Write us fully about your problems.

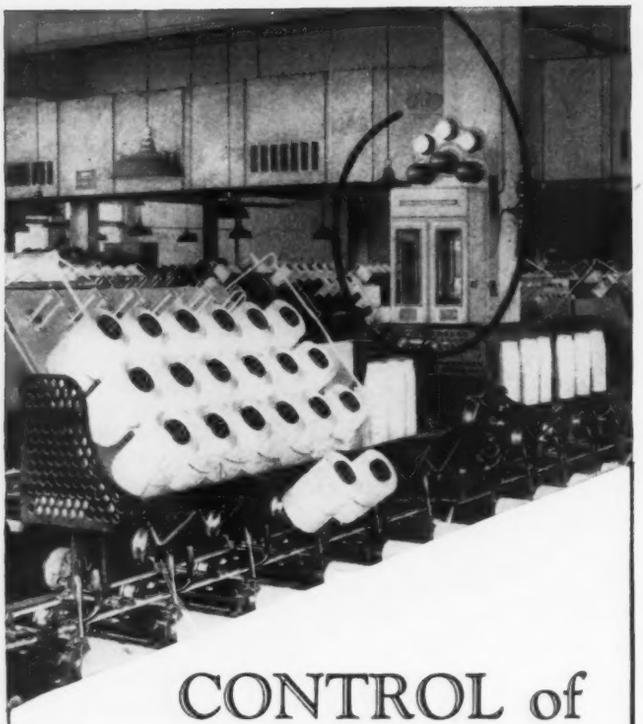
H. W. BUTTERWORTH & SONS CO.
Phila., Pa., Serving the Textile Industry Since 1820.
Offices: Providence, R. I. and Charlotte, N. C. In Canada—W. J. Westaway Co., Hamilton, Ont.

***64%**

of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

Butterworth



CONTROL of
Certified CLIMATE

The sensitive Psychrostat calibrates itself. Self contained thermometers (laboratory type) audit its action for you.

Surprising what a Psychrostat may be hitched up to do. Turns humidifiers on or off. Sprays (in Central Stations) on or off. Fresh air or recirculating dampers on or off.

A two-stage Psychrostat actuates humidifiers sort of double duty; light in winter, heavy in summer. Another stage may regulate temperature—right in the same instrument.

And now a new Psychrostat regulates the speed of Central Station fans. Makes Central Station Air Conditioning less expensive to operate.

In Parks Certified Climate installations you get all the experience that went into the development of this versatile control of Air Conditioning.

Parks-Cramer Company
Certified Climate
Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

Jan. 28, in Greensboro, N. C., Paul Booher, Owens-Corning Fiberglas Corp., described the growing uses of glass fibers in the textile industry. George Urlaub, of the Throwsters Research Institute, discussed silk yarn preparation and its relation to dyeing and finishing. Principal speaker at the banquet was Hugh M. Comer, executive vice-president, Avondale Mills.

Textile Markets Continue Strong

Cotton goods were active through January and closed with a spurt. There were fractional price advances. Osnaburgs and ducks shared this trend particularly. For 4-yard 80 squares 7¾c. was given at the end of the month, and there was some business on 38½-in. 60s at 5¾c. There was also good business in broadcloths and various combed-yarn goods.

Wool goods deliveries for spring are falling behind, and the anticipated scarcity of civilian yardage seems likely to be experienced. Mills are taking orders for fall goods without formal openings. The American Woolen Co. set prices on current business for the fall season near the end of January at about 25c. a yard on better grade worsteds over spring prices. The Wood worsted No. 9618 was priced at $2.10, up 20c. The lines were later withdrawn. Women's wear is brisk, with more interest in worsted fabrics than in woolens at present. Blankets have been offered at below last year's prices.

Silk remained dull and without significant price change through January. The Japanese Government plans to improve the silk situation by maintaining a minimum price and by encouraging broader domestic use. Early February price on Crack XX, 78%, was $2.55½, which is about the basis permitted by the Japanese minimum price.

Rayon yarns continue steady with strong undercurrent and primary market offerings are absorbed as they become available from month to month. Although new fibers are attracting attention, the standard types are going forward in a big way. Demand for staple fiber continues to spread.

Hosiery remained steady through January despite the lull in retail quarters following the unusually large December distributions. Women's full-fashioned production for 1940 at 43,266,915 doz. prs., is a record figure, surpassing as it does the 1939 figure by about ½ of 1%. The 1940 figure includes 2,750,487 pairs of Nylon. Seamless production in 1940 at 92,865,797 doz. prs. was off a little less than 1% from the 1939 record figure.

Underwear manufacturers in the face of somewhat unexpected increases in army business are unusually busy, but are making every effort to take care of their regular customers in as near normal way as possible.

Outerwear manufacturers find good demand for wool sweaters, the bathing suit season is well established.

Printing prices for both cotton and rayon fabrics have been increased by numerous companies during the last month. On cottons increases range from 10 to 25%; on rayons, about 1¢ a yard. Most printers are busy. Cotton dyers are also active, particularly those on Government work.

This and That

Alexander Smith & Sons Carpet Co. and C. H. Masland & Sons have sponsored a 30-minute movie entitled "Right—100% Right." The movie stars Professor Quiz of radio fame and Bob Trout. This sound movie explains the 1941 advertising and merchandising plan of the two rug manufacturers and will be shown to rug salesmen.

Among ambulances donated to the British-American Ambulance Corps are included one from the Celanese Corp. of America, Cumberland, Md., while funds are being raised

FULLITIN FULLS AND SCOURS COLD

AT TEMPERATURES AS LOW AS 60 DEGREES

Photo by Ewing Galloway, N. Y.

FULLITIN'S ability to operate effectively at low temperatures is unique and therefore permits economies in steam and labor hitherto impossible. Promoting quick, uniform and thorough penetration, absorbing lubricating oils (even mineral), and preventing the congealing of cold soap, it also prevents familiar troubles like mill wrinkles, stuck places, whiplashes, chafing, washer wrinkles, and cloudy dyeings. Bleeding of dyed stock and yarns is eliminated and a denser, firmer felt and better handle are obtained.

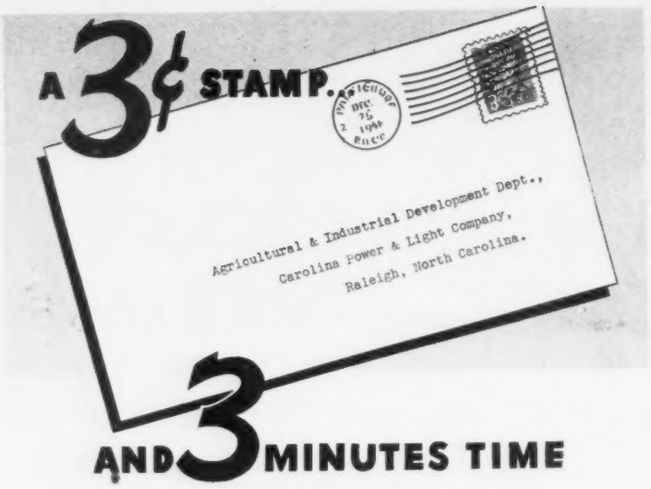
FULLITIN may be used alone if desired but it is also effective with soap or alkali in any proportion.

A Bischoff service man will be glad to demonstrate its advantages in YOUR mill.

COMPANION PRODUCTS

SCOUROLAN . . . . . for perfect scouring
EBCOMULSION . . . . . for perfect handle
SOL-TAR . . . . . to remove tar spots

ERNST BISCHOFF COMPANY, INC.
FOUNDED 1908 • IVORYTON, CONNECTICUT



AND 3 MINUTES TIME

ARE ALL THAT IS REQUIRED TO BRING *you* TIMELY PERTINENT FACTS ABOUT THE

Carolinas

• Your expression of interest in a location in North or South Carolina and explanation of your particular requirements will allow us to submit a comprehensive report . . . this type of engineering survey, which is rendered you without cost or obligation, will permit you to easily and economically consider the agricultural and industrial assets of our territory as applied to your needs and desires.

Agricultural and Industrial Development Department

Carolina Power & Light Company
Raleigh, North Carolina

there by the workers in the company for still another ambulance; two from the Hannah Pickett Mills, Rockingham, N. C.; and one from the Textile Waste Exchange, whose annual meeting was held recently at Augusta, Ga.

Southern Textile Basketball Tournament, with hundreds of players from textile communities all over the South, will be held March 5 to 8 in Textile Hall at Greenville, S. C.

New labor contract has been signed by New Bedford (Mass.) Cotton Manufacturers Assn. and the Textile Council.

Pacific Mills, Lawrence, Mass., finishing division made an upward wage revision Feb. 10.

International Silk Guild has issued a "memory jogger" on silk prints for spring 1941. The book tells a complete story on lines for the new season and who makes them. It is for distribution to divisional and general merchandise managers, advertising managers and buyers of department stores and fabric shops, resident buyers and wholesalers.

North American Rayon Corp., working in conjunction with United States Testing Co., is expanding its testing program to include all fabrics for outerwear and underwear woven or knitted from its yarn.

Textile department of the Georgia School of Technology, Atlanta, is offering two Engineering Defense Training Courses, one in Textile Testing, and the other in Textile Production, each of these being authorized under the National Defense Program and supported by the Government.

Third Woolknit Outerwear Show was held Jan. 16 at Ritz Carlton Hotel, New York. It included active sport, casual country and town wear, suits, dresses, sweaters, capes and coats, as well as several distinguished models in hand knits. There was also a large bathing suit section.

Nylon news this month includes the fact that a Chicago mail order house is offering a circular-knit silk stocking with Nylon toe and heel at 49c. Nylon sewing thread for use by the home dressmaker is now being offered at retail under Belding Heminway Corticelli Co.'s brand. Saks-34th Street store made a promotion of 2,200 pairs of Nylon full-fashioned goods cut to $1.09 per pair.

Textile Council of the Textile Workers Union of America conferred with the Fall River Cotton Manufacturers under request by the union for 15% advance in wages last month. It was understood that the two bodies will meet again around the middle of February.

DuPont's Fiber-D, the synthetic created especially for use in pile fabric floor covering, is being used by C. H. Masland & Sons in a special line made for Montgomery Ward and also by Charles P. Cochrane Co. in an axminster line.

P. H. Hanes Knitting Co., Winston-Salem, N. C., inaugurated a 7% wage increase throughout the plant which employs 2,800 operatives. At the same time P. H. Hanes, the president, announced details of a low cost hospital insurance plan available to all employees.

Employees of the Roanoke, Va., plant of the American Viscose Corp. contributed over $2,000 to the American Red Cross in the annual drive recently concluded.

Bibb Mfg. Co., Macon, Ga., has recently issued a booklet, "A Long Yarn in Few Words," which describes and illustrates dramatically the properties and advantages of HR bonded-fiber cotton cord.

Production of parachutes from a new type of fabric combining Chinese and Japanese silk has been announced by Irving Air Chute Co., Buffalo, N. Y.

Curtains made from Cordura, the high-strength rayon yarn produced by American Viscose Corp., were exhibited by several curtain houses at the Curtain and Drapery Show, held last month in New York.

WHEN LIQUID CAUSTIC BUCKS THE DRIFTS

UP to two years ago, cold weather meant that Liquid Caustic Soda stayed liquid only a short time after leaving the plant—would have to be steamed for hours before unloading. In cold weather or warm, it was sure to pick up enough metallic contamination from the car to make it worthless for some uses.

Two Columbia achievements have ended these troubles. One is the first protective coating to successfully withstand the action of Liquid Caustic at high temperatures. The other was the development of a new type of car—so effectively insulated that even 73% Liquid Caustic stays hot and liquid throughout ordinary shipping schedules.

For two full years these Columbia developments have proved their value to Liquid Caustic users. Because Columbia Caustic arrives as a purer product—and ready for unloading without tedious, costly "defrosting." Practical improvements such as these are typical of our efforts to make *all* Columbia products more profitably useful to our customers.

If it's a Columbia Product—
you're sure it's the best

SODA ASH • CAUSTIC SODA
SODIUM BICARBONATE
CALCIUM CHLORIDE
LIQUID CHLORINE
HENNIG PURIFIER
MODIFIED SODAS
CAUSTIC ASH
PHOSFLAKE
CALCENE
SILENE

You'll like the way Columbia Products—backed by Columbia Technical Service—do their job for you.

COLUMBIA
COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY
Columbia Chemical Division
30 ROCKEFELLER PLAZA
NEW YORK, N.Y.

Chicago • Boston • St. Louis • Pittsburgh • Cincinnati • Cleveland • Minneapolis • Philadelphia • Charlotte

Here's the Answer

to

FASTER-SAFER-MORE ECONOMICAL

Bobbin Cleaning

Write for this informative booklet today. See for yourself how this versatile machine can be adapted to your requirements—despite the wide variety of rayon and silk quills used.

It is the finest machine ever devised to efficiently and safely clean rayon and silk feeler waste. As compared to hand or reel cleaning, the production of the Type L is from two to five times as great.

Case histories on all installations show the same results: Higher operating efficiency—positive protection to bobbin finish—lower cleaning cost.

Write today — your copy will be mailed promptly.

The Terrell Machine Co., Inc.

Charlotte, N. C.

Luther Pilling, Danielson, Conn. — N. E. & Canada
E. W. S. Jasper, Elizabeth, N. J. — Penn. & N. J.
Geo. Thomas & Co., Ltd. — Manchester, England

Spun Rayon Progress

Includes development of new staple fiber types for specific uses

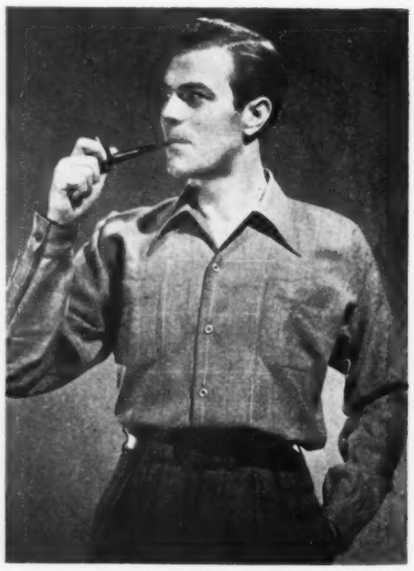
By H. W. ROSE

American Viscose Corp.

THE EFFECT of 1940's rapid increase in the sales of domestic staple fiber was to stimulate activity on the part of rayon producers to develop new fiber types. Where a few years ago there were only two types—1.5 and 3 den.—there are today between 50 and 100 types. Besides variations in denier, length, and luster, special fibers have been developed for use in floor coverings, blankets, worsteds, plush fabrics, and fabrics spun on the silk system.

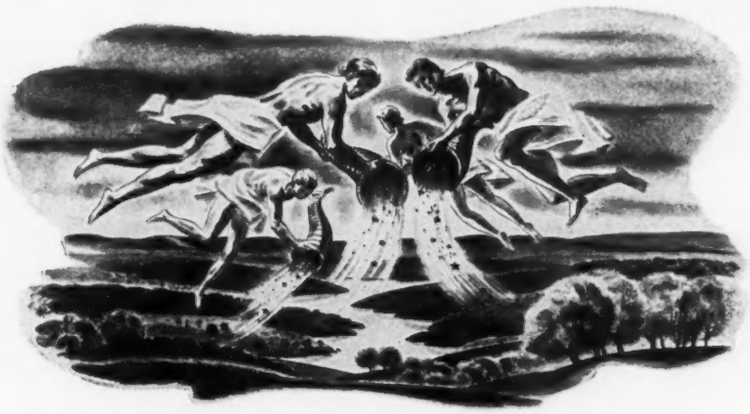
These new types of staple fiber differ from normal production. They are designed to provide the fiber character needed for specific uses. In the floor-covering field, for example, several types of fiber have been developed for maximum resilience and freedom from soiling. For use in blankets, types of fibers have been developed to increase the effective resilience. For use in worsted mills, special staple fibers have been developed for maximum strength and minimum noilage. It has been determined that different fibers are required for the soft worsteds, as used in sport shirts, and the crisp worsteds, such as the tropicals. To meet the requirements of plush mills, special types of staple fiber has been developed for flexibility and various dyeing properties. One type of Fibro developed for this service dyes dark to contrast with cotton, and thus creates a desirable mottled effect in one dyeing operation. For use on silk-spinning systems, staple fiber types have been developed which are capable of making a clear top, free of nep.

An interesting feature of market demand for spun rayon during the 1940 fall season, was the large proportion going into sportswear and men's wear fabrics. About half of the staple fiber consumed in American mills this fall went into these lines, including the poplins, twills, gabardines, and coverts. In previous years, by far the greater portion of spun rayon went into dress goods. Another feature of the year was the introduction by leading manufacturers of carpet and blanket lines of spun rayon.



MEN'S AND SPORTSWEAR lines consumed approximately half the spun rayon fabrics produced in the United States in 1940. Typical of the sportswear trend toward finer fabrics and better tailoring is the new "Free-for-all" sport shirt by Bartlay, Ltd., of Crown Tested spun rayon and wool.

Paul Garrison



THE *Chessie Corridor*

OFFERS TEXTILE MANUFACTURERS

PRINCIPAL RAW MATERIALS and SUPPLIES

TEXTILE plants of many kinds flourish in *The Chessie Corridor,* for they have—among other advantages—ready, economical access to most of the natural or processed materials and supplies they need.

Great chemical industries are practically your next door neighbors here, providing textile plants with the processing chemicals, oils and dyes required. Cellulose and rayon fibres are manufactured in this region. Many agricultural products, such as wool and flax, are produced here; and others—such as cotton—are grown in adjacent territory and are thus economically secured. Great machinery manufacturing centers are also located in *The Corridor.*

Plus . .

THESE 7 OTHER VITAL NEEDS

ACREAGE ON WATERWAYS—sites of various sizes provided with soft, flowing water for processing.

ABUNDANT PURE WATER—of softness and chemical content suitable to textile manufacturing is constantly available.

EXCELLENT TRANSPORTATION—favorable freight rates and dependable Chesapeake and Ohio service keep manufacturers and markets in economically close touch.

NATIVE-BORN LABOR—skilled men and women, many with textile experience; cooperative, willing-to-work *Americans.*

LOW-COST POWER — abundant coal, oil, natural gas and electric developments assure unlimited power at low cost.

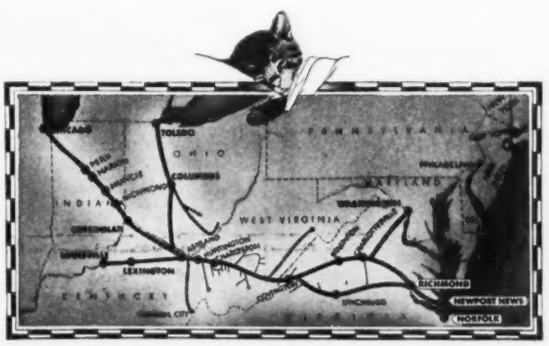
PROXIMITY TO MARKETS—major consuming areas are within first to third morning delivery range of this territory.

FRIENDLY LEGISLATION — cooperating with industries already here and with those the states invite.

—and a fine place to live!

THE COMPLETE STORY

of this important area is published in a beautiful book you'll be proud to have in your library—"The Chessie Corridor . . . Industry's Next Great Expansion Area." This is a graphic survey of the resources, conditions and opportunities which beckon industry to *The Corridor.* Copies will be mailed to textile executives requesting them from INDUSTRIAL DEVELOPMENT SERVICE, Chesapeake and Ohio Lines, Huntington, West Virginia.



THE CHESSIE CORRIDOR ★ *Served by CHESAPEAKE and OHIO LINES*

HIT OR MISS METHODS

• • • of ordering your alkalies *often kick back!*

• • • and kick back by influencing either the quality or the cost of your textile products.

When you use Solvay Alkalies, you can depend on their high quality . . . depend on their constant uniformity at all times. Here are a few other dependable points to consider before you place your order for alkalies:

THE RIGHT TYPE OF PRODUCT FOR THE JOB Solvay Alkalies are made in various forms to meet specific manufacturing requirements. The Solvay Products Book will give you complete information on types and strengths of Solvay products.

UNIFORM QUALITY . . . Only most modern and scientific manufacturing methods are used in making Solvay products—assuring uniform quality standards in Solvay products *every time you receive them.*

MODERN DISTRIBUTING FACILITIES . . . Three of America's largest alkali plants, located in important industrial centers and over 100 stock points assure prompt delivery and efficient routing of your orders for Solvay Alkalies.

YOUR PROBLEMS CONCERNING THE USE OF ALKALIES ARE SOLVAY'S . . . Solvay Technical and Engineering Service Division will help you get the most from your alkalies. Write to

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 Rector Street New York, N. Y.

BRANCH SALES OFFICES:
Boston • Charlotte • Chicago • Cincinnati
Cleveland • Detroit • New Orleans • New York
Philadelphia • Pittsburgh • St. Louis • Syracuse

SOLVAY SALES CORPORATION
40 Rector Street, New York, N. Y.

Please send me a copy of the Solvay Products Book which will give me complete information on all Solvay Products.

*Name*_____

*Firm*_____ *Address*_____

*City*_____ *State*_____ BM-2-41

NEWS ABOUT MEN

Franklin W. Hobbs' fiftieth anniversary with the Arlington Mills occurred on Jan. 28, coincidently the date of the annual meeting of that organization. Scores of floral tributes in the directors' room revealed the widespread good wishes of Boston textile circles. At Lawrence, Mass., on Jan. 27 a dinner sponsored by overseers and second hands was held at which the company's president received a beautifully embossed book containing the signatures of all the employees of the mills, headed by a small group whose term of service exceeds that of Mr. Hobbs. He was also honored at a luncheon given by the directors and members of the advisory committee of the Textile Foundation, of which he is the chairman, on Jan. 20. Mr. Hobbs has the unique honor of being a past president of both the National Association of Cotton Manufacturers and the National Association of Wool Manufacturers, and he has been an outstanding leader in the industry for many years.

Luther H. Hodges, Marshall Field & Co. manufacturing division, has been elected a director for three years of the Association of Cotton Textile Merchants of New York. Others similarly elected are **Robert T. Stevens,** of J. P. Stevens & Co.; **Charles A. Sweet,** of Wellington Sears Co.; **Henry C. Taylor,** of Taylor, Clapp & Beall.

Harold C. Whitman, New York, has been elected president of the Wilkes-Barre Lace Mfg. Co., Wilkes-Barre, Pa., succeeding the late R. Jay Flick. **Gerald Whitman,** New York, was elected treasurer to fill the post left vacant by the death of Gilbert Hinsdale. **Julius Hoffman,** superintendent of the company's Wilkes-Barre plant for many years, has been advanced to the post of general manager.

Elmer F. Andrews, former Wage-Hour Administrator, has announced establishment of the National Council on Fair Labor Practices, a non-profit organization designed to create harmony through industrial self-regulation. It will comprise an organizing committee composed of leading industrialists. Headquarters will be at 500 Fifth Avenue.

James W. Dunaway, general sales manager of Chas. P. Cochrane Co., Bridgeport, Pa., has been elected a vice-president of that company. He will continue to direct sales.

Geo. M. Humphrey has been elected chairman of the executive committee of Industrial Rayon Corp., Cleveland.

Herman Geller has been elected chairman of the board and president of the Allied Textile Printers, Inc., Paterson, N. J. **Irving Rosen** and **Patsy Porraro** are vice-presidents, and **Arthur Nazarro,** is treasurer.

John J. Merlein, for ten years associated with North American Rayon Corp., New York, N. Y., has resigned as advertising manager of that company.

H. Ray Holt has resigned as head of the San Francisco office of J. P. Stevens & Co., after 25 years' service in the textile industry. He will be succeeded by **Ray Whitney.**

G. F. Williams, of Greenville, treasurer of Pisgah Mills, Inc., Brevard, N. C., has been elected president also.

T. C. Barber, president of Barber Hosiery Mill, Mount Airy, N. C., will also serve the newly organized Surry Hosiery

COTTON YARN DEFENSE COMMITTEES

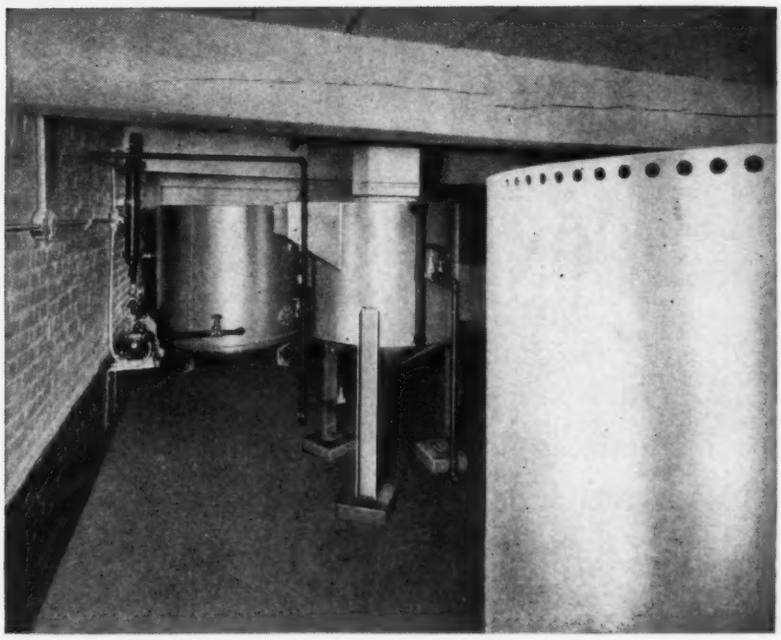
STUART W. CRAMER, JR., president of Southern Combed Yarn Spinners Association, has added three names to the combed yarn group's Defense Committee: Harold Lineberger, Belmont, N. C.; Arthur M. Dixon, Gastonia, N. C.; Ralph S. Robinson, Gastonia, N. C. Other members of the committee, which has been functioning since September, are: T. H. McKinney, chairman, Mt. Holly, N. C.; A. G. Myers, Gastonia, N. C.; R. D. Hall, Belmont, N. C.; and A. K. Winget, Albemarle, N. C.

The Carded Yarn Group has appointed a Defense Committee to work with the National Defense Commission. R. C. Forrest, Uniontown, Ala. is chairman of the committee, and other members are: P. E. Findlay, Macon, Ga.; P. M. Neisler, Mayo, S. C.; Philip Dana, Westbrook, Me.; H. M. Jones, Laurinburg, N. C.; and C. S. Northen, Jr., Sylacauga, Ala.

A special Defense Committee was appointed to represent the colored division of the Carded Yarn Group. It is composed of W. M. Banks, chairman, Grantville, Ga.; C. M. Geer, LaGrange, Ga.; and F. B. Bunch, Sr., Statesville, N. C.

How Millbury Woolen Co. cuts costs

with this "ideal" installation of The Lixate Process



★ ★ ★ ★ ★

YOU CAN SEE in the picture above what a beautifully engineered installation of The Lixate Process has been made by Millbury Woolen Co. of Millbury, Mass. A most convincing summary of installation advantages is contained in a matter-of-fact report by the Lixate engineer in charge. The report reads:

> "A new 60-ton salt storage bin was built. Sterling Rock Salt flows by gravity through a chute to the Lixator. Brine, automatically produced by the Lixator, flows to two steel tanks with a total capacity of 1200 gallons. A centrifugal pump supplies brine to all points of use in the dye house. An automatic electric pressure switch starts supplying brine wherever a valve is opened and stops when the valve is closed. Brine is metered so that exact amounts are put into each dye bath. Brine is used for raw stock and piece dyeing. The dyer states that since using Lixate Brine, he has been getting more uniform results."

The dye-master's most pleasant discovery is that Lixate Brine does give greater uniformity of shade, a finer feel and softer handle, and aids in more level dyeing through the absence of spots, streaks and whitened edges. This is because of the "quick-dispersion" of Lixate Brine—with no concentrations of salines to drive excess dyes into portions of the goods.

The financial executive's most pleasant discovery is that Lixate Brine cuts operating costs radically in 5 ways:

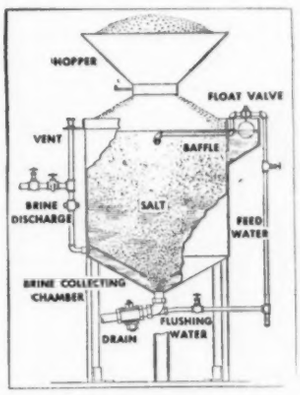
1. **No labor cost for handling salt after it is in the hopper or overhead storage.**
2. **No labor or power cost for mixing saline exhausting agents in water or dyeing solutions.**
3. **Marked reduction in costs for distributing salines or solutions throughout the plant.**
4. **Marked reduction in rejects, seconds and costs for re-dyeing.**
5. **Savings from 10% to 50% in the quantity of salt or saline exhausting agent required.**

It costs nothing to find out what you can save with The Lixate Process in your own operations. Write, today, for a free copy of The Lixate Book—or, if you prefer, ask to have a Lixate Engineer call and give you details of the savings and the improvement in quality that The Lixate Process can make in your own plant.

★ ★ ★

● TRACE OPERATION STEP BY STEP

This cross-section diagram shows *how* The Lixate Process makes its savings. (1) Sterling Rock Salt is placed in storage, or a hopper, above the Lixator, and flows by gravity to the Lixator below. (2) Water enters, under automatic control, through a spray nozzle at the top. As water flows down, it dissolves the salt and becomes saturated brine. This eliminates all labor or power cost for mixing brine. (3) Saturated brine, self-filtered and crystal clear, rises through a collecting chamber and flows to a storage tank from which it can be piped to any part of the mill. This eliminates all labor cost for distributing dry salines or saline solutions to points of use throughout the plant. (4) Automatic operation cuts waste, saves 10% to 20% in amount of salt required and saves 50% and more of the quantity of sodium sulfate required.



● THIS BOOK "KNOWS ALL THE ANSWERS"

How much salt is there in a gallon of saturated brine? What is the difference between the freezing point of saturated brine and "eutectic" brine? These are but two of many questions answered in an instant by the copyrighted brine tables in The Lixate Book. This book should be in the library and among the working references of every textile executive. A copy will be sent free on request. Write for your copy today.

The LIXATE Process
REG. U. S. PAT. OFF.
for making brine

INTERNATIONAL SALT COMPANY, Inc., SCRANTON, PA.

SALES OFFICES: *New York, N. Y. • Buffalo, N. Y. • Philadelphia, Pa. • Boston, Mass. • Baltimore, Md. • Pittsburgh, Pa. • Newark, N. J. • Richmond, Va. New Orleans, La. • Cincinnati, O. • St. Louis, Mo.*

REFINERIES: *Watkins Glen, N. Y. • Ludlowville, N. Y. • Avery Island, La.* • MINES: *Retsof, N. Y. • Detroit, Mich. • Avery Island, La.*

ANOTHER COST-SAVER

Leighton again leads with a new machine, and again builds a real cost-saver.

A Transfer Seamless Sleeve Machine.

Automatically knit on cuffs.

Three color stripe.

Automatic taper attachment.

Selvedge edge.

No cutting — no seaming.

Average 1-lb. of yarn per dozen.

Average cost $1.00 per dozen.

This machine like our others backed by 68 years of successful knitting machine building.

Est. 1873 Inc. 1894

LEIGHTON MACHINE CO.

MANCHESTER, N. H.

NEWS ABOUT MEN

Mills in advisory capacity. Surry has started up in the plant formerly the Argonne mill.

Dr. Henry W. Jordan of Belmont, N. C., has moved to Cedar Falls, N. C., where he will manage the Sellers Mfg. Co. The Jordan Spinning Co. has been newly organized at Cedar Falls.

James E. Shields, manager of the Rayon Division of J. P. Stevens & Co., New York, has been elected a member of the board of National Federation of Textiles, Inc.

Joseph Adams has been elected president of the Adams Textile Print Works, Norwich, Conn. **Paul Kalinowski** of Lisbon, is vice-president, and **Henry S. Levine,** Norwich, is secretary-treasurer.

Clyde L. Carnahan has been elected president and treasurer of Empire Worsted Mills, Jamestown, N. Y. Other officers chosen at the annual meeting Jan. 18 are **Hjalmer Swanson,** vice-president and general manager, and **Marvin J. Klarquist,** secretary.

Baptiste Lanza, of Lanza Silk Dyeing Co., Paterson, N. J., has been elected president of the Silk Dyers' Association of America for the fourth consecutive term.

David Shaw, president of Velveray Corp. of America, Fall River, Mass., is head of a new firm, Velveray Associates, New York, which will include the first named concern and also the following finishing units: Velart Corp., Hamilton Print Works, Kromit Corp., Sterling Textile Printers, Inc., and Novelty Process Print Works.

Allen L. Brassell, U. S. Testing Co., has been elected president of New York Alumni chapter of Phi Psi fraternity; **John A Harley,** Ciba Co., **Stuart A. Walker,** U. S. Testing Co., and **John W. Ogletree,** National Starch Products, Inc., have been named vice-president, secretary, and treasurer respectively.

WILLIAM E. SIMKIN

William E. Simkin, formerly an instructor at the University of Pennsylvania, who has been associate impartial chairman for the last two years in contacts between the Full-Fashioned Hosiery Manufacturers of America and the American Federation of Hosiery Workers, has succeeded **Dr. Geo. W. Taylor,** chairman, in that post. Dr. Taylor who has served the hosiery industry as impartial chairman for the last 12 years, resigned that duty Jan. 14 to accept the post as impartial arbitrator between General Motors Corp. and the United Automobile Workers of America. In his new post, Dr. Taylor succeeded **Harry A. Millis,** recently appointed chairman of the National Labor Relations Board.

Sidney Rainess, formerly in charge of the converting department of Joseph Gluck, has been elected president of the newly formed Grant Finishing Co., Paterson, N. J. **John Fenimore** is vice-president of the latter company.

Frank Skidmore, of Joshua L. Baily & Co., New York, last month celebrated the 50th anniversary of his joining that company. He was given a luncheon under the auspices of the Textile Square Club, attended by more than 70 of his friends and associates. Many of the market veterans attended, including

EMPLOYEES GIVE FULLER CALLAWAY NEW AUTO

FULLER E. CALLAWAY, JR., president of Callaway Mills, La Grange, Ga., received a real Santa Claus package at Christmas time in the form of a new deluxe-model Ford automobile, presented him by the 5,926 employees of Callaway Mills as a token of their affection, according to a recent story in the La Grange *Daily News*.

The automobile was delivered at his office with the following note attached:

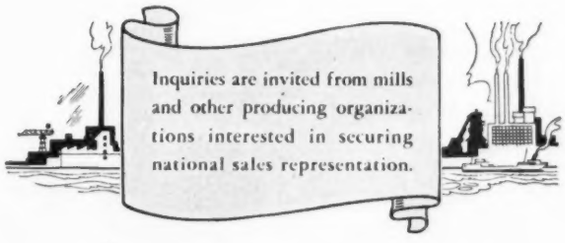
"Dear Mr. Callaway:

"It is impossible for all of us to see you and tell you our appreciation of the many things you do for us. We are giving you this car to show you something of our gratitude.

(signed) The Employees of Callaway Mills"

Of Facilities for
Styling and Designing

Leaders of an industry are definitely charged with an obligation to make their products increasingly attractive to the public and profitable to the trade. Cone Export & Commission Company has just completed a year that has been notable for expansion of facilities all along the line—particularly those that pertain to the designing and styling of fabrics. That is why the new towels are smarter, playtime denims more fashionable, shirt-and-slacks fabrics more highly styled, flannelettes more appealing, work clothing fabrics more like dress-up fabrics. Again for 1941 the emphasis of the leaders in cotton-textiles will be on making cotton goods more interesting, useful and valuable — to the end that people will buy and the industry prosper.

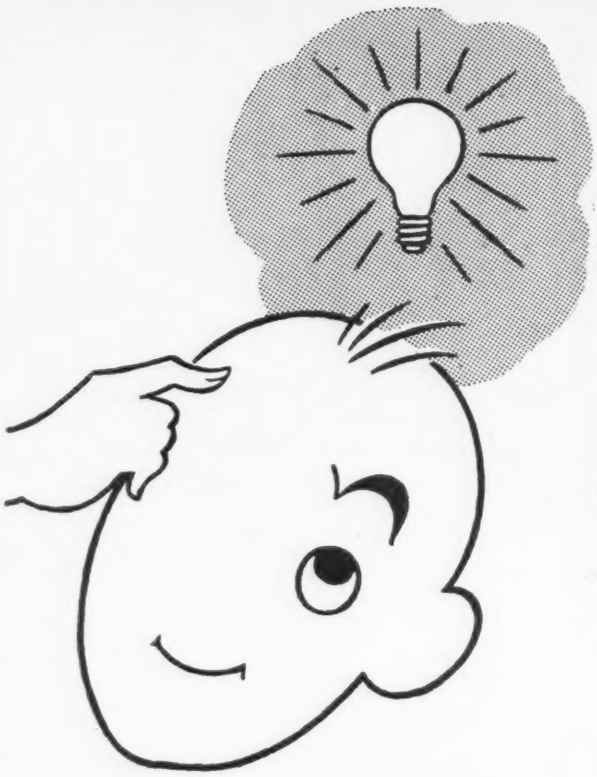

Inquiries are invited from mills and other producing organizations interested in securing national sales representation.

CONE EXPORT & COMMISSION CO.

59 Worth Street, New York, N. Y.

THIS IS YOUR SAFEGUARD

Greensboro, North Carolina



"It took us a long time to catch on"

That's the confession of one dye-house foreman who had long blamed his production troubles on everything but the water. . . . Off-whites, dull colors, poor dye-matching and rejects were getting him down and costing the firm money until a water test showed that they needed a

HUNGERFORD & TERRY WATER PURIFICATION SYSTEM

These dependable systems produce clear, 100% soft, iron-free water at a cost of only a few cents per thousand gallons. . . . Water that assures uniform finish, better hand, brighter colors, closer dye matching, whiter whites and holds rejects down to the minimum.

To determine whether or not your water supply is causing you trouble and expense we will make an impartial survey without fee or obligation. Write us today.

HUNGERFORD & TERRY, INC.
WATER PURIFICATION PLANTS DESIGNED INSTALLED *and* GUARANTEED
CLAYTON, NEW JERSEY

NEWS ABOUT MEN

Percy F. Phillips, 87 years of age with 70 years in the market to his credit.

George F. Dickson, formerly vice-president and treasurer of Minneapolis (Minn.) Knitting Works, has been elected president and general manager. **Walter H. Thorp** is now chairman of the board and treasurer; **Thomas F. Wallace,** vice-president and secretary; **A. B. Shaft,** sales promotion manager; **E. L. Thomas,** production manager. The company this year celebrates its Golden Anniversary.

Gordon Brine has resigned as vice-president in charge of sales of Rollins Hosiery Mills, Des Moines, Iowa, and become general sales manager of Nolde & Horst Co., Reading, Pa.

W. F. Christman has been promoted from assistant superintendent to superintendent of the towel mill of Marshall Field & Co., Fieldale, Va.

Robert Saltonstall, formerly employment manager of rayon division, Pacific Mills, Lawrence, Mass., has been made personnel director for Arlington Mills, succeeding **Frank Lewis,** resigned.

Tom Stevenson has been appointed to the sales staff of the United States Finishing Co., New York, to devote his time to the development and merchandising of special finishes on better quality fabrics. For over 20 years Mr. Stevenson was New York sales agent for Apponaug Co.

Curtice L. Mathews, treasurer of the Textile Banking Co., New York, has resigned. He has been succeeded by **J. C. Allers,** formerly his assistant.

Irving W. Weed, head of the tie-silk division of Susquehanna Silk Mills, New York, has retired from the firm and from active business. He was with the firm for over 26 years.

H. Irwin Moraff has resigned from Algonquin Printing Co., New York. He has formerly been president of Moraff, Craig & Co.

John R. Illingworth is now manager of the New York office and general manager of the plant of the Sussex Dyeing & Print Works, Newton, N. J. He recently resigned as sales manager of the print department of the United Piece Dye Works.

Robert M. Sharp has been elected president of Bridgewater (Vt.) Woolen Co. He has been with the concern for 26 years.

I. F. Elliott has been named manufacturing superintendent of the Seaford, Del., Nylon yarn plant of E. I. du Pont de Nemours & Co., succeeding **W. L. Stabler,** who has been elevated to the post of plant manager.

LOUIS F. HALL, president of Sanco Piece Dye Works, Inc., Garnerville, N. Y. and a pioneer textile merchant, was guest of honor at a dinner given by his employees on the occasion of his birthday recently. Mr. Hall has been associated with Sanco for the last three years. He has been active in textiles for many years and was a founder of the Cohn-Hall-Marx Co. ALBERT SANDS, treasurer of Sanco presented Mr. Hall with a gold watch. JAMES J. HIGGINS, JR. was toastmaster.

George F. Haigh, formerly resident manager of the Puritan Mills of the American Woolen Co., is now manager of Yorkshire Worsted Mill's plants at Leni and Chester, Pa.

F. Donald Jones has been appointed superintendent of the Pittsfield, Mass., plant of Wyandotte Worsted Co., succeeding **Ezra A. McEwen,** recently transferred to the superintendency of the company's plant at Rochester, N. H.

Mal C. Donovan, in charge of the underwear sales of Perry Knitting Co. for many years, will head the department set up by A. A. Smith & Sons, New York, to handle the sales for that mill.

John A. Sand, Jr., Sand Knitting Mills Co., Chicago, was re-elected president of the Western district of the National Knitted Outerwear Association at the annual meeting Jan. 7. Other officers named are: **Armin Rosenberg,** Reliable Knitting Works, Milwaukee, first vice-president; **Sam Weiner,** Mode Knitting Mills, Chicago, second vice-president; **Max Karger,** Eagle Knitting Mills, Milwaukee, treasurer, and **Kenneth Newberger,** Royal Knitting Mills, Chicago, director.

Spencer Green has resigned as general superintendent of the Soule Mill, New Bedford, Mass., following 27 years' connection. **Frederick A. McDevitt,** assistant to the agent of Soule has also re-

STANDARD BEARERS

National Defense means more than battleships and aeroplanes, tanks and bombs. It means the defense of American economic life as well as the defense of American political life.

It means not merely the prevention of undue price increases but the protection of the consumer against a lowering of standards of quality. Against this last danger all elements in American economic life must be everlastingly on their guard.

THE PACIFIC FACTAG

The Pacific Factag is a notable step forward in the protection of the consumer against the lowering of standards of quality in textiles. It has been devised by Pacific Mills to enable Americans to know the essential facts about the fabrics they buy.

This fabric tag is the first of its kind. It is, for instance, the first to give definite ratings for different degrees of color fastness in accordance with authoritative standard tests issued by the National Bureau of Standards, Washington, D.C.

Introduced only nine months ago, the Pacific Factag has already found wide acceptance. Making it easier for the buyer to buy and for the seller to sell, it has speeded the distribution of millions of garments.

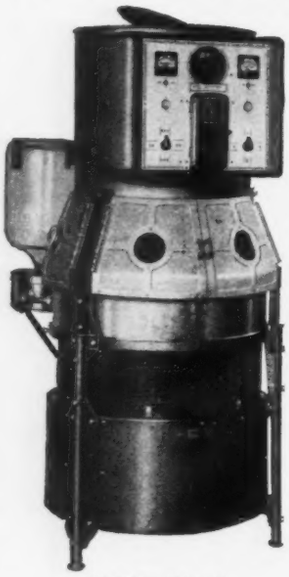
In its national advertising, Pacific Mills is now promoting the Pacific Factag among the women of the United States as a practical contribution in the public interest.

PACIFIC MILLS

214 Church Street, New York

LOOK FOR THE PACIFIC FACTAG WHEN YOU BUY GARMENTS OR FABRICS OF **COTTON, RAYON OR WOOL**

ATLAS OMETERS and NATIONAL DEFENSE



MODEL FDA-R

The Atlas Ometers have a use in other than the peaceful arts. For those interested in bidding on merchandise intended for National Defense, we have compiled a list of specifications used by the Services, in which Atlas equipment is stipulated, or may be used advantageously.

Utilize this opportunity to extend the use of your Fade-Ometer and Launder-Ometer by sending for this information. No obligation of any kind.

Catalog describing new FDA-R Fade-Ometer also available upon request. This model does credit to the great textile and dye industries it serves.

ATLAS ELECTRIC DEVICES CO.
371 W. SUPERIOR ST. CHICAGO

Why Not? *Have Your Personal Accident and Health Insurance with . . .*

EASTERN COMMERCIAL TRAVELERS

Mutual Company • No Agents • No Branch Offices

MASSACHUSETTS CO., INC. 1894

ACCIDENT POLICY PAYS		HEALTH POLICY PAYS	
ACCIDENTAL DEATH	WEEKLY DISABILITY	$25.00 Per Week for Confining Sickness	$10.00 Per Week for Non-confining Sickness
$5,000- $10,000	$25.00- $50.00		
Estimated Annual Cost $15.00		Estimated Annual Cost $20.00	

PAYS WHILE YOU ARE LAID UP
PAYS FROM THE FIRST DAY OF DISABILITY
46 YEARS OF UNFAILING SERVICE

No Policy Is Cancelled, Rates Increased, or Benefits Reduced on Account of Any Age!

SEND THE COUPON TODAY

John S. Whittemore, Sec.-Treas.
Eastern Commercial Travelers
80 Federal St., Boston

Without obligation, please send complete information and application for membership to

Name.....
Address.....
City.....
State.....
T.W.'41

signed, following the retirement of his father, **Frederick H. McDevitt,** as agent, as reported last month. **Francis E. McMullen,** has joined Soule Mill, New Bedford, Mass., as technician. A graduate of New Bedford (Mass.) Textile School, he has been with Pacific Mills, Dover, N. H., for several years.

R. L. Harris, treasurer of Roxboro (N. C.) Cotton Mills, was recently inaugurated Lieutenant Governor of the State of North Carolina.

Moris L. Hirsh has been promoted from assistant to general manager of Star Woolen Co., South Pittsburgh, Tenn., succeeding to **H. Frede,** resigned to enter business of his own. **Richard McKee,** from the main Star plant at Cohoes, N. Y., succeeds Mr. Hirsh.

Fred A. Mennerich, textile technician, Jersey City, N. J., has been elected president of the New York Microscopical Society which has a membership of about 280 microscopists.

C. Victor Wray, for the last two years associated with the Government spinning laboratory at Clemson College, Clemson, S. C., is serving a year in Washington, as a textile specialist in Ordnance Department. At the end of the year he will return to spinning laboratory.

Bennett Rose has been made assistant general manager of Victor-Monaghan Co., Greenville, S. C. He was formerly assistant superintendent of Dunean Mills.

Sydney Bluhm, with Proximity Mfg. Co., Greensboro, N. C., for 30 years, has been made assistant treasurer.

Kenneth M. Lowry, who has been head cost accountant and employment agent for the three units of Springs Cotton Mills, Chester, S. C., has resigned to accept a similar position with Ware Shoals (S. C.) Mfg. Co.

George P. Stone, an employee of Proximity Mfg. Co., Greensboro, N. C., for 45 years, of which for 34 he has been superintendent of Revolution Cotton Mills, retired at the close of 1940. He has been succeeded by **Colby F. Phillips,** assistant superintendent of Revolution for the last 11 years.

Hy Seligman, formerly of the firm of Seligman & McCarthy, New York, has become associated with Scheuer & Co.

Selby Groff, formerly of Fred Whitaker, Philadelphia, and of Hempstad Fabrics, Brooklyn, N. Y., is now associated with M. Salter & Sons, and Salter Mills of Saugus, Mass.

T. A. Hightower, manager of the Kendall Co., Edgefield, S. C., has retired and **Wm. H. Tedford,** for a number of years assistant manager of the Mollohon unit of the same company at Newberry, S. C., has been appointed to succeed him.

Henry Green, formerly connected with Wauregan (Conn.) Mills, has been made assistant to **C. C. Holmes,** superintendent Continental Mills, Lewiston, Me.

Photo by H. G. Battles

I. RUSKIN SCHWARTZ, speaking at recent meeting of New York Club of Philadelphia Textile School. Mr. Schwartz is in charge of the New York office of Philadelphia Quartermaster Depot; he talked on co-operation between industry and the Army in supplying fabrics for national defense. At left Howard P. Galloway, of TEXTILE WORLD and at right Milton Schmidt, president of the club. Richard S. Cox, assistant dean of the school, also spoke.

AROOSTOOCRAT POTATO STARCH...

It beats the Dutch!

Equals the Finest Imported

Sets a new

Standard of Starch Quality

Reason for

AROOSTOOCRAT Quality

The first plant of its kind in the United States — employing the complete plans and equipment and processes of European plants, where starch making is an EXACT SCIENCE. All AROOSTOOCRAT Starch, for instance, is washed in ARTESIAN WELL WATER, for absolute purity.

Uniform Quality Guaranteed

TEXTILE MANUFACTURERS . . . you can no longer depend on Europe for first quality starch . . . But now, in AROOSTOOCRAT, you CAN get a starch having all the desirable characteristics of the famous Dutch Starches. Indeed, in many respects some think "IT BEATS THE DUTCH!"

AROOSTOOCRAT is made in a starch plant that employs the most advanced principles of the American, European and Dutch Starch making industries. It sets a NEW standard of QUALITY and UNIFORMITY in textile starch—and is made in QUANTITY to meet the needs of all textile users. Yet it COSTS NO MORE than ordinary starches, even tho' its QUALITY quickly proves its great economy over cheap starches. Its 99% waste-free laboratory controlled processing effects great economy in production; and that economy is passed on to you.

WRITE for further information on prices, quantities, deliveries. Read our new book, just out, entitled "It Beats The Dutch." It tells the story of AROOSTOOCRAT processing in detail. Send coupon for your copy today.

AROOSTOOK POTATO PRODUCTS, Inc., HOULTON, ME.

Sales Agent: MORNINGSTAR NICOL, INC., 630 W. 51st ST., NEW YORK CITY

Send this Coupon!

I am interested in Textile Starch that "beats the Dutch"—made in America. Sold at American prices. Send me a copy of your new Book, "IT BEATS THE DUTCH" telling and showing how and why—TODAY.

Name ..... Title .....

Mill Address .....

CUT HUMIDIFIER POWER COSTS IN HALF WITH THE RIHCO TYPE B HEADS

RIHCO Type B Atomizer

These atomizers mix the air and water *inside* the Head instead of *outside* and put all the air to work instead of only *part* of it.

They operate on half as much air as ordinary heads and at lower pressure; therefore using *less* than *half* the power.

Any mill with atomizers that has as much as half the needed capacity can get all that is needed by replacing gravity Heads with RIHCO Heads, and with no additional compressor or power.

R. I. HUMIDIFIER & VENT. CO.

Humidifiers since 1912

99 Chauncy St., Boston, Mass.

Aldrich Machine Works, Greenwood, S. C. — V. L. Sanderson, 1710 Walnut St., Philadelphia, Pa.

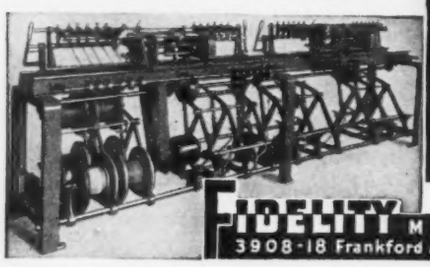
FIDELITY MULTIPLE-UNIT SPOOLING MACHINE

Measures and stops automatically, maintains uniform tension, gives even, smooth lay. Spools quickly changed. Compact, sturdy, speedy and efficient.

Write for catalog of FIDELITY Spooling Machines.

OTHER FIDELITY MACHINES

Braiders
Backwinders
Circular Knitting Machines
Cylinders and Dials
3-Color Yarn Selector & Knot Tyer
Fringe & Tassel Machines
Giant Package Winders
Raschel Machines
Ribbers
Wire Covering Machines
Belt Loop Cutters
Pocket Folding Machines
Special Machines designed and built



FIDELITY MACHINE CO.
3908-18 Frankford Ave., Philadelphia, Pa.

H. G. LORD *comments on*

Foreign Wars

See page 6

NEWS ABOUT MEN

W. E. McLeod, New York, now heads the amalgamated selling organization including all the mills of the W. C. Bradley interests. **John Willyoung** and **Robert Bradford,** both formerly of the old firm of Bliss, Fabyan & Co., have joined the Bradley sales organization. **Paul B. Brine,** lately with the Boston office of Wellington Sears Co., will represent the Bradley interests in Boston.

Gustave Geiges, formerly president of the American Federation of Hosiery Workers, has succeeded the late Ernest Corbet as superintendent of the Propper-McCallum Hosiery Co., Northampton, Mass. He was head of the union from 1918 to 1929. More recently he was superintendent of Hancock Knitting Mills in Philadelphia, and of the Westmoreland Knitting Mills.

J. G. Chapman, formerly general manager of Samoset Cotton Mills, Talladega, Ala., is now superintendent of Eagle & Phoenix Mills, Columbus, Ga.

William W. Edwards, superintendent of the Franklin, N. H., plant of M. T. Stevens & Sons Co., celebrated the 50th anniversary of his employment by that company late in January. His overseers tendered him a banquet.

M. Weldon Rogers has been appointed general superintendent of the units of Chadwick-Hoskins Co., at Charlotte, N. C., and Martinsville, Va., after serving for the last two years as superintendent of Nos. 1 and 2 mills at Charlotte.

Dallas Autry has been promoted to position of overseer of the cloth room of No. 5 unit of Georgia-Kincaid Mills, Griffin, Ga.

H. W. Pittman, of Macon, Ga., has assumed his new duties as agent for Bibb Mfg. Co.'s unit at Porterdale, Ga. He was formerly assistant to **Wm. D. Anderson,** company president.

Obituary

Robert C. Boger, 62, president of Boger & Crawford, with plants at Boger City, N. C., and Philadelphia, died last month. He was born in Germany and came to this country as a young man. In 1907 he formed a partnership with Alfred Crawford as Boger & Crawford. The business was incorporated in 1918. On the death of Mr. Crawford in 1930, Mr. Boger became sole owner.

ROBERT C. BOGER

Dr. Edward Wallace Pierce, 64, technician with Ciba Co., New York and widely known as textile chemist, author and lecturer, died Feb. 8 in Paterson, N. J. He began his career with Continental Dye Works; later he was with National Aniline & Chemical Co., U. S. Conditioning & Testing Co., E. I. du Pont de Nemours & Co. and Sandoz Chemical Works, until 1927, when he joined Ciba Co. He was active in the A. A. T. C. C.

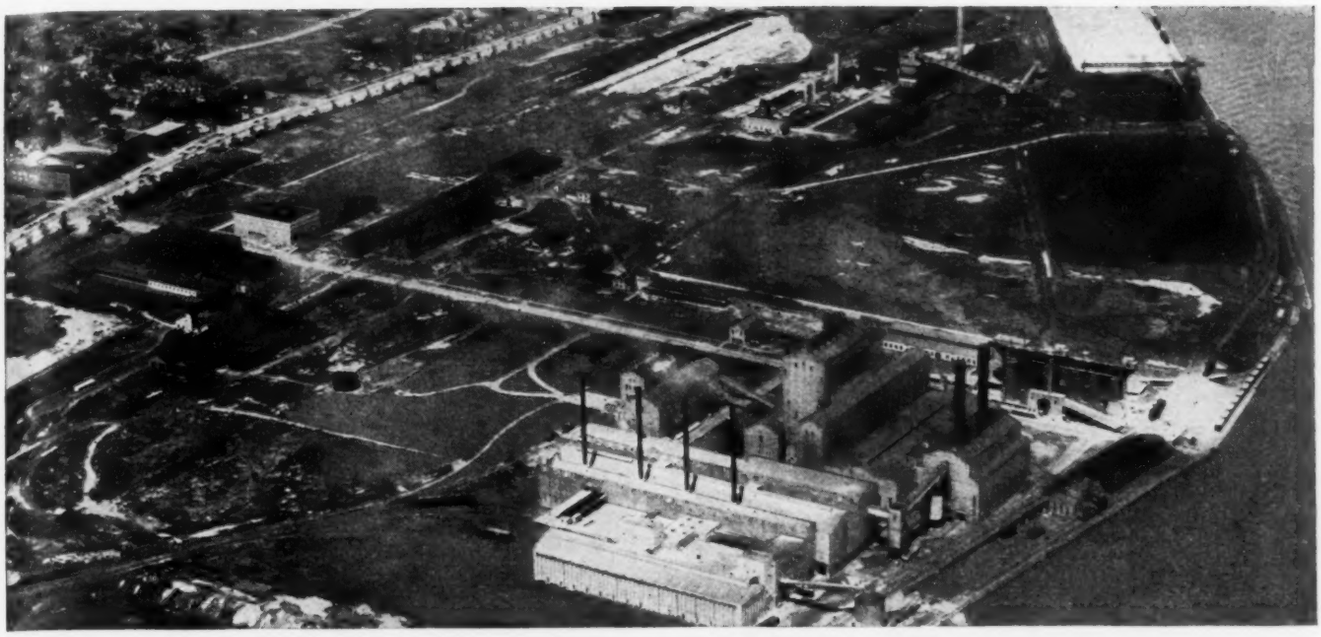
Capt. Samuel L. Gwin, 68, a distinguished member of the Mississippi and American Bar Associations, died Jan. 5 in Greenwood, Miss. Capt. Gwin was father of Mildred Gwin Barnwell, executive secretary of the Southern Combed Yarn Spinners Association.

John Elliott Cowdin, 82, at one time head of the old silk firm of Johnson-Cowdin-Emmerich, Inc., New York, but retired from that business 20 years ago, died Jan. 7. He was connected for many years with horse racing and polo.

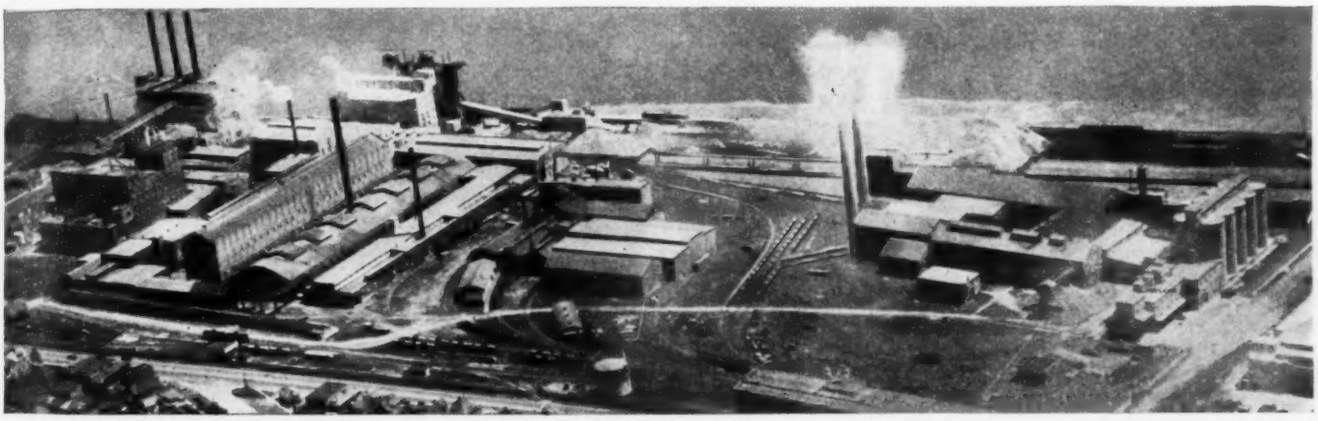
Dr. Enoch Walter Sikes, 72, president of Clemson (S. C.) College for 14 years, prior to his retirement last July, died suddenly Jan. 8. Dr. Sikes began his teaching career at Wake Forest (N. C.) College in 1891, after his graduation from that institution. In 1916 he became president of the Coker College for Women, Hartsville, S. C., and in 1925, president of Clemson.

W. P. Pickhardt, 60, vice-president and director of General Aniline & Film Corp., New York, died Jan. 22. He was for many years with his father's dye and chemical firm of Kuttroff, Pickhardt & Co. and president from 1925 to 1930 when it merged with General Dyestuff Corp. He was director of numerous chemical firms.

Where Wyandotte Industrial Chemicals are Manufactured



• Here are the North (above) and South Plants of the Michigan Alkali Company, home of Wyandotte Chemicals — spread over 300 acres along the Detroit River, with 50 salt wells, 42 miles of pipes, a railroad, lime-kilns, coke plant, docks, and dozens of constantly active chemical units — the source of hundreds of thousands of tons of alkalies each year.



• For more than 50 years, Michigan Alkali salt wells at Wyandotte, Mich., have been pumping brine to make Wyandotte Soda Ash. Michigan Alkali's own ships, plying the Great Lakes, bring limestone and coal to help produce basic chemicals needed in scores of industries.

Production of Wyandotte chemicals is continuous — the fires in several of the Michigan Alkali plants have been burning steadily since 1901. New products are constantly being developed. Wyandotte Research and Technical Service are becoming increasingly important to Michigan Alkali customers.

Perhaps you have a problem which Michigan Alkali can help you solve. Night and day, by air, rail and highway, Michigan Alkali Technical Men go out into the field. Backed by the research facilities of the Michigan Alkali Laboratories, they are equipped to help you.

* * *

• Make your reservations now for the Drug, Chemical and Allied Trades Banquet at the Waldorf-Astoria on March 13th.

MICHIGAN ALKALI COMPANY

WORKS: WYANDOTTE, MICHIGAN • GENERAL SALES OFFICE: 60 E. 42ND STREET, NEW YORK CITY

***Manufacturers of:* Soda Ash, Caustic Soda, Bicarbonate of Soda, Calcium Chloride, Dry Ice, Liquid Chlorine, Calcium Carbonate, Coke, Cement, Tar, Toluol, Benzol, Xylol, Calcium Hypochlorite**

ABRASER ABRASER ABRASER ABRASER

Taber ABRASER

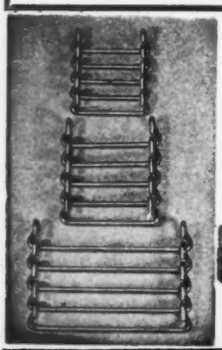
TEXTILE WEAR TEST

WRITE FOR BULLETIN 3902

Taber ABRASER ·WEAR TEST· WOVEN AND KNITTED TEXTILE FABRICS

TABER INSTRUMENT COMPANY
NORTH TONAWANDA, NEW YORK
EASTERN REPRESENTATIVE
ALFRED SUTER - TEXTILE ENGINEER - 200 FIFTH AVE NYC

OPPORTUNITIES
TO IMPROVE YOUR PRODUCT
AND SAVE YOUR MONEY . . .



NARROWING CHAIN

Accurately made from high grade material—built to last and to hold its shape.

SINKER HEAD SLOT CUTTERS

The ideal tool for cleaning out slots in sinker and divider heads. Made in all gauges. Each one comes in a leather carrying case.

Send for bulletin giving full details on these and other products.

THE SINKER WITH THE HARDENED THROAT PATENTED AND THE HARD BUTT

GIVES YOU..

ESS BREAKAGE
ONGER SERVICE
OWER OPERATING COST
ONGER UNIFORMITY OF PRODUCT

THOMAS & SKINNER
STEEL PRODUCTS COMPANY
1119 East 23rd Street Indianapolis, Indiana

NEWS ABOUT MEN

F. A. COLT

Frederick A. Colt, 82, recently retired after many years as secretary of the General Arbitration Council of the Cotton Textile Industry, died in New York, Feb. 1. He had been secretary of the Textile Export Assn. of the U. S. since its inception until recently. Mr. Colt had over 60 years experience in the Worth Street district and was a partner in the old firm of Ostrander & Co.

Herbert A. Currier, 57, president of Currier & Co., New York, died Feb. 6. He was for 15 years manager of William Whitman Co.'s cotton yarn department, until in 1927 he was one of the founders of an independent firm.

G. H. Waterman, president of G. H. Waterman & Co., Boston, died recently. He was a vice-president of William Whitman Co. and later president of Waterman, Currier & Co. of Boston.

W. T. Jackman, 68, who with his brother founded the Jackman Co., East Corinth, Vt., died Jan. 11. He retired in 1929, turning the bobbin business over to a company in which his son, Laurence M. Jackman, had an interest.

James A. Erwin, aged 82, president of Rockwood (Tenn.) Hosiery Mills, and pioneer resident there, died Jan. 18.

Charles T. Maxwell, formerly president of Wilton Hygiene Knitting Co., Philadelphia, who retired in 1937, died Jan. 28.

Arthur G. Soenning, who founded the Saxonia Dress Goods Mill in Philadelphia in 1903 and operated it until 1923 died Jan. 4.

Benjamin C. Shove, 80,, for 37 years treasurer of the Union Cotton Mfg. Co., Fall River, Mass., until his retirement in 1929, died Jan. 29.

George Overend, retired agent for Pondicherry and other mills of the Deering-Milliken group, died recently at the home of his daughter in Rochester, N. Y. He was nearly 70.

J. F. Ames, 72, head of the Selma (Ala.) Mfg. Co. and the Ames Bag Mill & Machinery Co., Cleveland, Ohio, died recently. He went to Selma in 1909.

Wm. A. Carpenter, 63, for 30 years superintendent of Hartsville (S. C.) Cotton Mills, who retired from active duties several years ago, died recently.

Siegfried Levi, 66, president and one of the founders of the Rugby Knitting Mills, Buffalo, N. Y., died last month.

Herbert W. Rice, 71, president and treasurer for 30 years of the U. S. Gutta Percha Paint Co., and a resident of Providence, R. I., died Jan. 17. He was on the board of numerous companies, including the New England Butt Co.

James Walter Williamson, 66, secretary-treasurer and general manager of Bellwill Cotton Mills, Wilmington, N. C., and as vice-president of Holt-Williamson Mfg. Co., died recently as result of an automobile accident.

Kenneth Welch, 49, for the last 30 years with Standard Coated Products Co., and its predecessor, died in St. Louis last month.

Eli Mirandon, 76, founder and long an officer of the Silk Dyers Association of America, died in Paterson, N. J., late last month. He was born in France and came to this country in 1871.

George A. Farrand, 72, an erector of machinery for the last 49 years with the Whitin Machine Works, died at Whitinsville, Mass., recently.

L. William Horr, 81, who only recently retired as partner in the dry goods firm of Minot Hooper & Co., New York, died Jan. 13 at his home in Newark, N. J.

James J. White, 57, a national figure in the cotton waste business who retired about a year ago, died in Brookline, Mass., on Jan. 12. He was a native of Cincinnati, Ohio, and had been president and general manager of the Northern Waste Co., Boston, and served three terms as president of American Cotton Waste Exchange.

W. Rodman Peabody, 66, president and treasurer of Suncook Mills, a director of Amoskeag Co., and of Mutual Boiler Insurance Co., Boston, died in Milton, Mass., on Jan. 12.

Warren C. Merrill, 43 southern representative of Sikes, Inc., died at his home in Charlotte, N. C. He was buried at Newton, Mass., his former home.

IF you had to depend on red ants for formic acid today there wouldn't be enough to go around. But DU PONT can meet your needs for this efficient discharge agent. FORMIC ACID develops brighter colors even in cross dyeing. Though it's a strong acid it does not tender delicate fabrics and completely exhausts the dye bath.

Other Du Pont textile processing chemicals include:

Du Pont Tetra Sodium Pyrophosphate—one of the most efficient assistants for boil-off, scouring and dyeing. *Acetic Acid*—for chrome acetic oxidation of vat colors and ideal as a discharge agent for sensitive dyes and pastel shades. *Sulfuric and Muriatic Acids*—as sours for cotton bleacheries. *Phosphate of Soda*—an assist for kier boiling.

Also: *Glauber's Salt* and *Anhydrous Sodium Sulfate*—standard leveling agents for both acid and neutral dye baths. *Sulfide of Soda*—for solubilizing sulfur dyes. *Anhydrous Sodium Sulfate*—extender for dye standardization. *Bichromate of Soda*—for chrome topping, improving fastness of color. *Lactic Acid*—an efficient and economical reducing agent for producing chrome bottoms.

Specify Du Pont FORMIC ACID and other textile chemicals on your next order - results will tell the story!

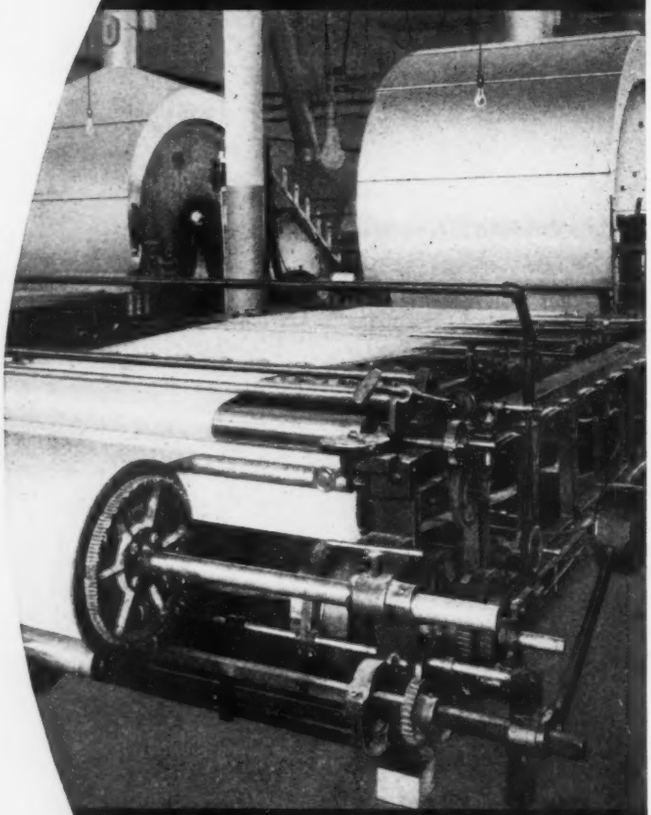
E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
GRASSELLI CHEMICALS DEPARTMENT • WILMINGTON, DELAWARE

DU PONT
REG. U. S. PAT. OFF.

Atlanta • Birmingham • Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit • Los Angeles • Milwaukee
New Haven • New Orleans • New York • Philadelphia • Pittsburgh • Rensselaer • San Francisco • St. Louis • St. Paul
Represented in Canada by CANADIAN INDUSTRIES, LTD., General Chemicals Division, Montreal and Toronto

★CLEANLINESS
★UNIFORMITY
★SERVICE

Warp Sizing Starches



Serving the Textile Trade for over a quarter of a century . . .

★

CORN PRODUCTS SALES CO.

Greenville, S. C.
Greensboro, N. C.
Spartanburg, S. C.
Atlanta, Ga.
Birmingham, Ala.
Boston, Mass.

MILL STARCHES
CORN PRODUCTS REFINING CO.

TEXTILE MILL NEWS

Cotton Mill News

American Thread Co., Dalton, Ga., has awarded general contract to A. K. Adams Co., Atlanta, Ga., for one-story addition, 100x150 ft., reported to cost over $65,000.

Brandon Corp., Greenville, S. C., has installed in its duck mill, one of the largest looms in the United States. The loom has an overall width of 30 ft. and is capable of weaving cloth up to 270 in. wide.

Buffalo Mills, Stubbs, N. C., has been purchased from I. O. Blumenthal by R. J. Woods. The deal included 122 acres of land, a store building, and 27 dwellings as well as the plant; price was $25,000. The mill, which has 3,100 spindles on coarse carded yarns, has been leased by Mr. Woods since 1938.

California Cotton Mills Co., Oakland, Calif., has begun one-story addition, for warehouse expansion, to cost over $45,000, for which general contract recently was let to Engineers, Ltd., San Francisco.

Carter Mill, Taylorsville, N. C., which was recently purchased by Robert Goldberg of the Gastonia (N. C.) Combed Yarn Corp., has been enlarged and re-equipped. Carded yarns are now manufactured but combers may be added later.

Cartex Mills, Salisbury, N. C., has been sold to Ben R. Rudisill and his wife, and Thomas W. Borland and his wife.

Cayuga Cordage Mfg. Co., Auburn, N. Y., is a new company which has succeeded to the business of the former Cayuga Linen & Cotton Mills, now liquidated. The plant is now located at 44 Washington St., Auburn.

Cottondale (Ala.) **Cotton Mills** have been leased to C. E. Goodroe, of Whitesburg, Ga., with an option to buy. The mill is to be put back into operation. It is owned by M. D. Rosenau, and formerly operated as the Rosenau Mills. Additional machinery is being installed by Mr. Goodroe.

Dwight Mfg. Co. reports net profit for fiscal year ended Nov. 30, 1940, of $401,521 compared with $238,217 for previous fiscal year.

Efird Mfg. Co., Albemarle, N. C., suffered $100,000 damage by fire Feb. 2.

Farr Spinning & Operating Co., which, as a subsidiary of the Berkshire Fine Spinning Associates Corp., took over the former Farr Alpaca cotton mill in Holyoke, Mass., a year ago, is now operating a force of 450 hands. It is now wholly independent, but its total output of about 250,000 lb. of cotton yarn a month is being taken by Berkshire. The Holyoke plant has two full shifts and a part of a third.

Flax Processing & Linen Co., to be located in the Joseph Benn Textiles, Inc., plant at Greystone, R. I., has contracted for machinery and will occupy about 100,000 sq. ft. of space employing 250 at the start. Werner Abegg, a Swiss manufacturer, is in charge.

Harden plant of **Ranlo Mfg. Co.,** Worth, N. C., has been bought by R. S. Dickson and associates for $150,000. The mill has 5,500 spindles on carded yarns from 12s to 30s, single and ply. It will be operated under the name of Harden Mfg. Co. R. S. Dickson will be president; E. B. Denny, vice-president and secretary; and A. Jack Corpening, treasurer. The property, includes mill, village, a power plant, and 1,000 acres of land.

McCampbell & Co. report net profit of $182.349 for year ended Jan. 4, 1941, against $175,374 for preceeding year. Total sales were $23,886,006 against $19,807,701.

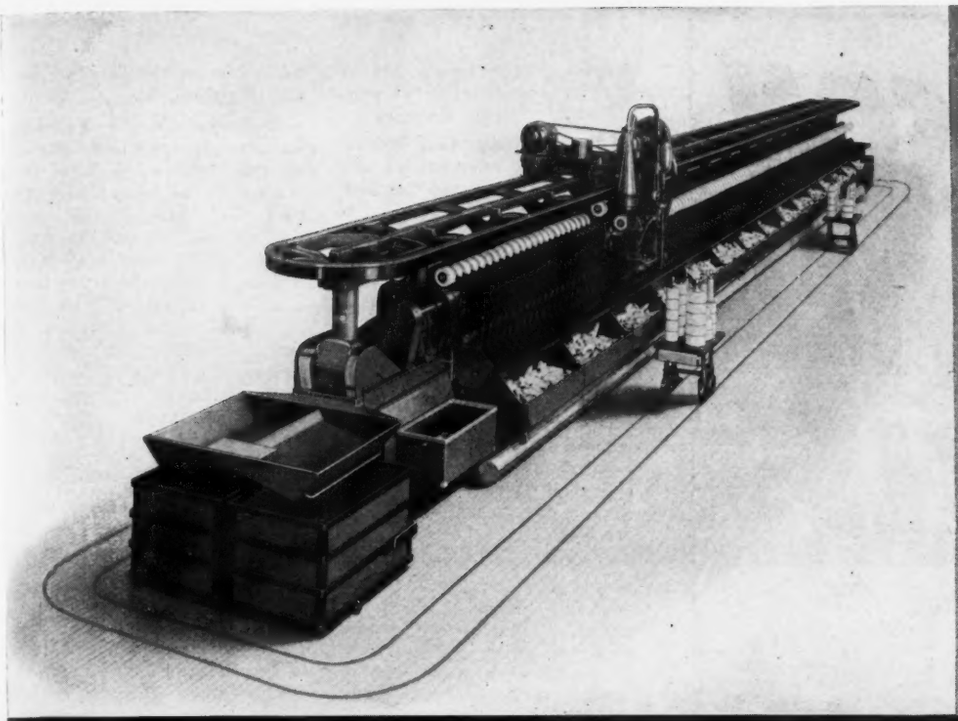
McIntyre Mill, Maiden, N. C., has been purchased by D. H. Mauney, of Lincolnton, N. C., whose three sons will operate the plant. The mill has 4,000 spindles on coarse carded yarns. It was formerly the Liberty Mill operated by the late J. Smith Campbell.

Narragansett Mills, Fall River, Mass., are negotiating a $15,000 mortgage which will permit reopening after idleness of several years. William Bowker is treasurer.

Nashua Mfg. Co. reports net loss of $247,184 for fiscal year ended Nov. 2, 1940 compared with net loss of $6,365 for previous fiscal year. Net sales rose from $11,319,763 to $12,440,487.

Naumkeag Steam Cotton Co. reports net profit of $182,975 for the fiscal year ended Nov. 30, 1940. Production totaled 22,881,898 yds. against 20,196,031 yds. Sales in 1940 were $5,306,045 compared with $5,592,994.

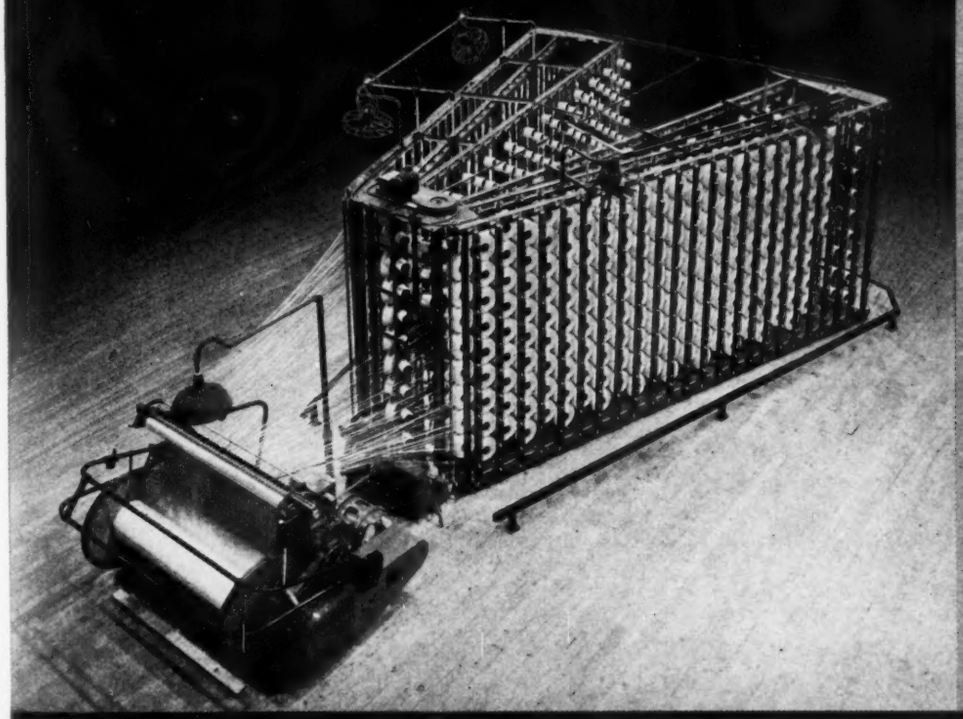
Pelzer (S. C.) **Mills** are completing a modernization and



AUTOMATIC SPOOLER

EASILY ADAPTED TO SPUN RAYON

...AS DEMONSTRATED BY ACTUAL USE IN MANY LEADING COTTON MILLS NOW RUNNING SPUN RAYON ON THIS EQUIPMENT



SUPER-SPEED WARPER

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A. • MANCHESTER, ENGLAND • MUNICH, GERMANY

RYERSON CERTIFIED STEELS

Large Stocks... Uniform High Quality... Immediate Shipment... Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

for Results

USE

Mc GRAW-HILL

DIRECT MAIL LIST SERVICE

improvement program, providing for centralization of spinning and weaving divisions.

Russell Mfg. Co., Middletown, Conn., has awarded contract for a steel and concrete, 1-story weave room addition to its plant on East Main Street, to Dennis O'Brien & Sons, Hartford.

A. A. Shuford Mill Co., Hickory, N. C., has nearly completed an addition which cost $65,000.

St. Clair & Archer, Inc., Staunton, Va., is newly organized for the manufacture of textiles, under an authorized capital of $25,000. Francis W. Archer, of Bluefield, W. Va., is president.

Trion (Ga.) **Co.** has approved plans for two additions, one and two-story. Cost reported over $35,000, with equipment. Company also has work in progress on modernization in mill, to include installation of additional machinery.

Wool Mill News

Ace Woolen Co., Norwich, Conn., has arranged for change of name to the Thames Woolen Co., with headquarters at Glastonbury, Conn., in future.

Arlington Mills reports net profit of $439,629 for fiscal year ended Nov. 30, 1940 compared with $194,079 for preceeding fiscal period. Sales, at $16,319,613, were 18.6% over 1939.

Berkshire Woolen Co., plans a new power plant to cost between $125,000 and $150,000, of steel and concrete.

Centredale Mill, North Providence, R. I., has been sold for $17,000 to W. L. Clark, H. E. Sweet and M. B. Sweet who propose leasing to an industrial concern.

Robert N. Dobbins, Brookline, Mass., has purchased former plant of George E. Kunhardt Corp., Lawrence, Mass., from the city, and will improve and equip at once for new wool scouring, carding and combing mill. Cost estimated over $60,000, including equipment.

Farr Alpaca Co., Holyoke, Mass.—Suit has been filed in the Superior Court at Springfield by Edwin Farnham Greene and others asking for a receiver to liquidate the company as voted by the stockholders. Preston Upham, E. J. Carr and others are named as defendants. R. DeWitt Mallary was later appointed receiver with bond of $100,000.

Glen Riddle (Pa.) **Mills** were disposed of in liquidation sale on Feb. 4.

Great Falls Woolen Mills, Somersworth, N. H., have been taken over by the Textile Fiber Co., Waltham, Mass.

Holyoke (Mass.) **Fabrics, Inc.,** newly organized, started up Feb. 3 in two floors of the D shed of the former Farr Alpaca Co.'s plant, Cabot and Bigelow Sts. Robert E. Anderson, for 32 years with Farr Alpaca, is president of the new company. Plant includes 150 looms, 30 spinning frames, 3 sets of drawing, etc. It will specialize in tropical worsteds and interlinings but right now has a Government order for silk powder-bag cloth. Felix Brawer is treasurer. The organization was made possible by the cooperation of Albert N. Kahn, president of Consolidated Products Co., liquidator of Farr Alpaca Co.

S. E. Hyman Co., automotive fabrics, Fremont, Ohio, will establish a branch plant in Sandusky, Ohio, to employ 100 workers. The firm's two plants in Fremont employ 400.

L. W. Packard & Co., Inc., Ashland, N. H., have begun erection of new two-story addition, 50 x 110 ft., for expansion in production. Cost reported about $50,000, including equipment.

Robert E. Pent, New Braunfels, Tex., is setting up a wool combing plant in a building which has been remodeled for the purpose.

Saltex Looms, Inc., Bridgeport, Conn., disposed of machinery and equipment at an auction sale Jan. 15 and 16.

Sanford Mills reports net profit for year ended Nov. 30, 1940 of $480,924 compared with net profit for previous year of $348,210.

I. W. Smith Woolen Co., Third and Merion Sts., Bridgeport, Pa., had its equipment sold at auction on Feb. 10.

S. Stroock & Co. reports net profit for 1940 of $260,253 compared with net profit of $103,826 for 1939.

Textile Weavers, Ltd., Grand'Mere, Que., have awarded general contract to Armand Grenier for one-story addition. Cost about $45,000, with equipment.

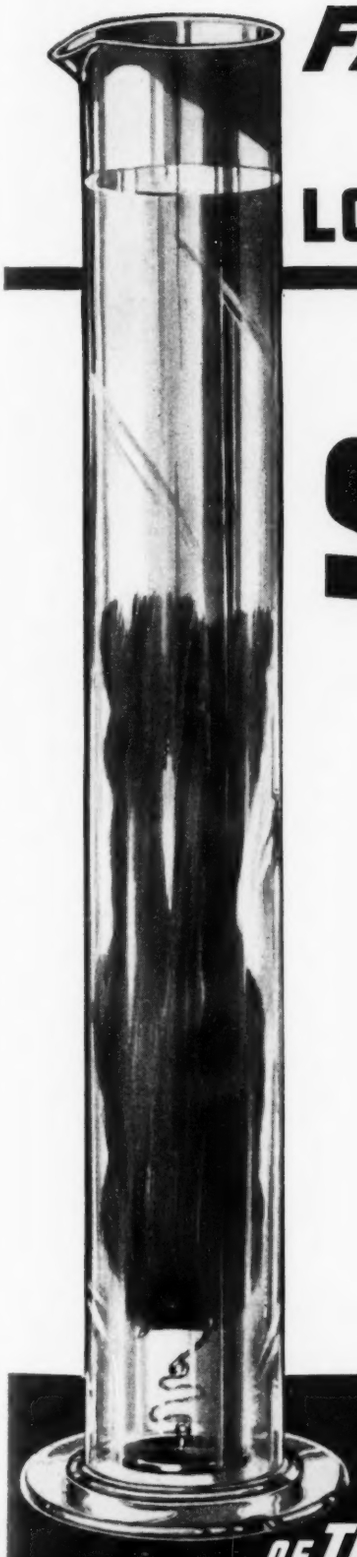
Tiffany Woolen Mill, Webster, Mass., lately idle has been sold to a newly organized Boston concern headed by Richard Whitcomb, who may soon reopen the mill.

Waterford (Conn.) **Woolen Co.** has taken over the former Jordan Mills at Waterford, and is now running on Shetlands for men's wear. Gerard Haagens is head of the firm and Arthur La Croix is superintendent.

FASTER WETTING-OUT

at

LOWER CONCENTRATIONS



with

SURFAX W. O.

This means that you get more for your money—**plus** higher, more efficient production! The fact that Surfax W. O. wets out faster at lower concentrations has been proved both by the recognized Draves Test, and in hundreds of mills throughout the country.

Let Surfax W. O. aid in profitably speeding up and modernizing your processes. It has—

Great efficiency at high or low temperatures.
Superior wetting-back properties . . . so necessary in sanforizing.
Wets out faster—usable in lower concentrations.
Unexcelled as dye bath leveller and softener.

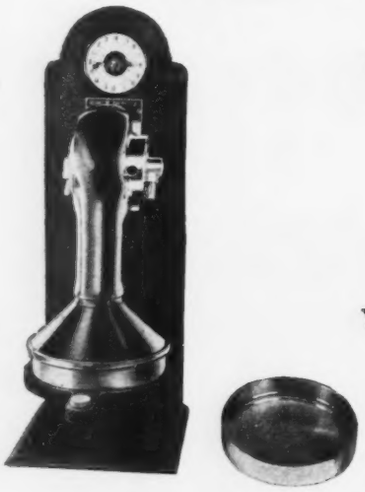
Let the Houghton Man demonstrate the surprising ability of SURFAX W. O. Write for the factual folder and the informative reprint on "Evaluation of Detergents and Wetting Agents".

E. F. HOUGHTON & CO.

Charlotte - PHILADELPHIA - Chicago

THE HOUGHTON LINE OF TEXTILE PROCESSING PRODUCTS

RAPID AND ACCURATE
MOISTURE CONTROL
With the
MOISTURE TELLER



RAW STOCK
COTTON
WOOL
SILK
RAYON
YARNS
YARD GOODS
ETC.

INEXPENSIVE — PRACTICAL
MOISTURE TESTING BY DRYING

Harry W. Dietert Co.
9330 H Roselawn Ave. DETROIT, MICHIGAN

ALLEN HOLLOW
Hex Socket SCREWS
FOR TEXTILE MACHINERY

Heads set flush with machine surfaces; no sharp edges to catch fabrics; no slots to burr and pull threads. Strongest, handiest screws to use; hold tight under vibration. Ask for *free samples* — indicate types and sizes wanted.
ALLEN MFG. CO., Hartford, Ct.

NOVELTY-YARNS
For
WEAVERS-KNITTERS
MONTGOMERY
WINDSOR LOCKS, CONN.
Designers and Spinners of Novelty Yarns

Wincheck Woolen Mills, Hope Valley, R. I., were scheduled to be sold at auction last month.

Rayon & Silk Mill News

Sidney Blumenthal & Co., New York, have purchased the plant of the Wilson (N. C.) Mfg. Co., and will install new machinery at once. When completed, the mills will employ about 180 operatives.

Bonita Ribbon Mills, Inc., Brewton, Ala., plan expansion, including installation of equipment for increased capacity.

Burlington Mills Corp., Greensboro, N. C., is constructing an addition to its unit at Conover, N. C., to cost $35,000. It is also constructing an $8,500 addition at Greensboro and another addition at Johnson City, Tenn.

Continental Mills, Auburn, Me., is rewiring the entire six-story mill. Incandescent lights are to be used except in the cloth inspection room where fluorescent will be installed.

Duplan Silk Corp. reports net profits for six months ended Nov. 30, 1940 of $131,432 compared with $246,686 for the six months ended Nov. 30, 1939.

Industrial Rayon Corp. reports a net profit on operations for 1940 of $2,392,476. This compares with earnings of $1,348,923 in 1939, and is equal to $3.15 per share for 1940 as compared to $1.77 per share in the previous year.

Leon-Ferenbach Silk Co., Johnson City, Tenn., will add 20 new spinning frames and some work will be transferred from the company's plants at Wilkes-Barre and Parsons, Pa.

Peter Magagna, White Haven, Pa., has taken over the plant and equipment of Wyoming (Pa.) Silk Mills, until recently operated by the Anthracite Silk Co. The plant, idle for the last six months, has resumed operations. Mr. Magagna formerly operated the plant before it was run by the Anthracite company.

Putnam (Conn.) Mills Corp., organized by S. M. Bloom, New York, will continue operation of Porter-Dearington Textiles at Putnam, lately acquired by Mr. Bloom. New machinery, including automatic silk looms, will be added.

Roanoke (Va.) Weaving Co. will construct a one-story addition for warehouse. The company has recently completed another addition to house approximately 175 new looms.

William Skinner & Sons, Holyoke, Mass., has placed an order for 64 more new Draper X-D looms to be installed in the Appleton street mill. This is the third order of a battery of 64 looms to be placed by the textile firm with the Draper Co. within a year.

Tubize-Chatillon Corp., New York, will borrow $4,500,000 for purpose of refunding and to permit expansion at its Rome, Ga., and Hopewell, Va., plants. The company will add one large boiler with pulverized fuel burning system at its plant at Rome, Ga. Boiler contract awarded to Babcock & Wilcox Co., New York. Engineers are Lockwood Greene Engineers, Inc., New York.

Knitting Mill News

Atlas Knitting Mills, Inc., 196 Portland St., Boston, Mass., has leased about 7000 sq. ft. of space at 114–22 Portland St., and will use for expansion.

Bassett - Walker Knitting Co., Bassett, Va., recently organized with capital of $500,000, has taken over local property of Bassett Knitting Corp.

Brooks & Anderson, Jasper & Orleans Sts., Philadelphia, was sold at auction on Jan. 30.

Calcraft Knitting Mills, Los Angeles, Calif., have made an assignment for benefit of creditors.

William Carter Co., Springfield, Mass., has taken out a permit for alterations in local mill in Morris St., for which general contract has been awarded to J. G. Roy & Sons Co., Springfield.

Caswell Knitting Mill, Yanceyville, N. C., is installing new knitting machines and auxiliary equipment, which cost $50,000.

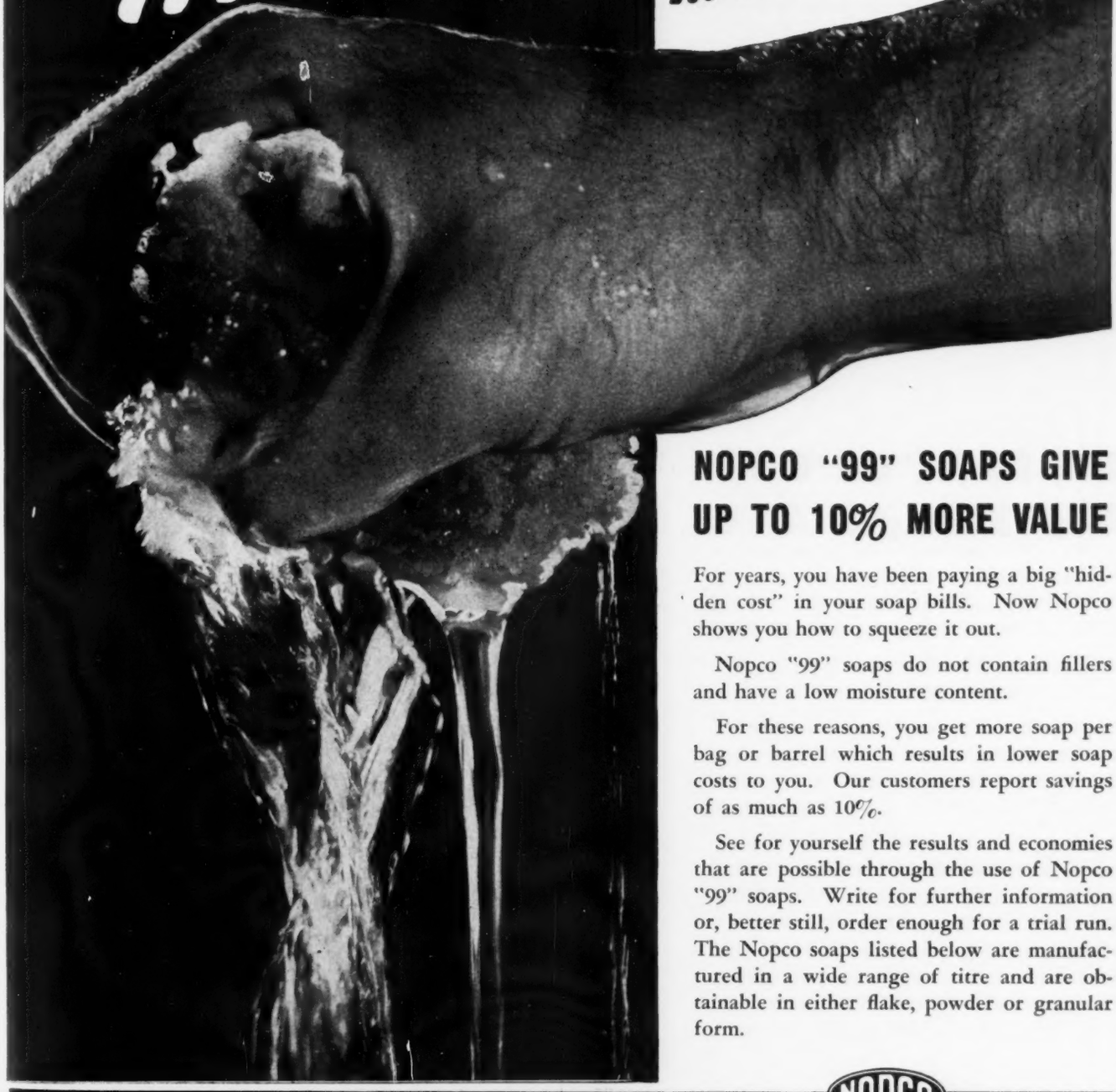
Chatham-Knit Wear Co., Chatham, Va., is installing machinery in the former National Bank Building to manufacture cotton sweaters. Edwin Springthorpe, formerly of Philadelphia, is president.

Cherokee Hosiery Co., Cleveland, Tenn., recently organized to take over the local mill of Cherokee Hosiery Mill, has begun production on partial basis and will step output up to capacity at early date. Company will specialize on anklets for infants and children. Cliff Campbell is president and general manager.

Conover, N. C.—A new mill on children's anklets will soon be built here. The mill will be owned by A. L. Patterson and Robert McRee.

Empire State Mills, New York, is adding equipment and taking larger quarters.

WRING OUT THE HIDDEN COST IN YOUR SOAP BILLS



NOPCO "99" SOAPS GIVE UP TO 10% MORE VALUE

For years, you have been paying a big "hidden cost" in your soap bills. Now Nopco shows you how to squeeze it out.

Nopco "99" soaps do not contain fillers and have a low moisture content.

For these reasons, you get more soap per bag or barrel which results in lower soap costs to you. Our customers report savings of as much as 10%.

See for yourself the results and economies that are possible through the use of Nopco "99" soaps. Write for further information or, better still, order enough for a trial run. The Nopco soaps listed below are manufactured in a wide range of titre and are obtainable in either flake, powder or granular form.

NATIONAL OIL PRODUCTS CO.
HARRISON, N. J.

BOSTON CHICAGO CEDARTOWN, GA. LOS ANGELES

NOPCO

TO MEET EVERY NEED

Soap L —a tallow soap
Soap N —an olive oil type soap
Soap N9—a flake soap—olive oil type
Soap P —a palm type soap
Soap D —a stearic type soap

WHITMAN
Yarns

ARLINGTON MILLS
LAWRENCE, MASS.

CRAMERTON MILLS
CRAMERTON, N. C.

MONOMAC SPINNING CO.
LAWRENCE, MASS.

NONQUITT MILLS
NEW BEDFORD, MASS.

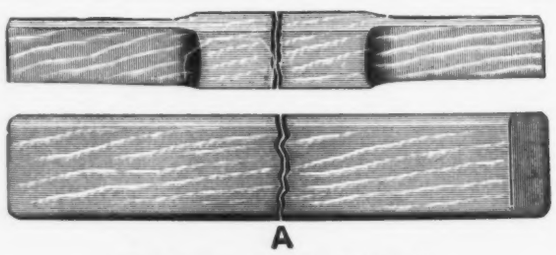
WILLIAM WHITMAN COMPANY, Inc.
NEW YORK BOSTON PHILADELPHIA CHARLOTTE

RINSES . . EASILY AND COMPLETELY
DRUMMOND SOAP

√ Rinses easily and completely.
√ Saves scouring time and steam costs . . . Improves fulling and scouring operations.
√ Gives the softest feel and better handle.
√ Makes colors brighter.

OTHER HIGH GRADE "STANDARD" PRODUCTS
Stanso Palm Oil Curd Soap, Etc. Etc. Etc.

Standard Soap co. of camden
1918 South Sixth St.
Camden, New Jersey
Charlotte, N. C., Cato M. Littleton, 426 Park Terrace.
Woonsocket, R. I., G. Tanguay, 281 Harris Ave.



A
DYE STICKS

Since 1900 we have made high quality true-form oven-seasoned dye sticks for all standard machines. We can fill your needs today to meet any requirement. Write

FRANK BAILEY Cedar Brook, N. J.

TEXTILE MILL NEWS

J. Z. Erwin Hosiery Mills, Inc., Graham, N. C., recently organized, have installed three 26-section Reading leggers and one 28-section footer for initial equipment for new local mill for production of full-fashioned hosiery, occupying space in building on South Main St.

Fairy Silk Mills, Shillington, Pa.—Continuance of the receivership has been approved by Judge Forrest R. Shanaman, Earl S. Jenckes, receiver, was authorized to purchase new tricot machines at a cost of $27,000. A plan for reorganization has been formulated.

Greenville (N. C.) Full Fashioned-Hosiery Mill will soon begin operations, using building and machinery formerly the Davis Full-Fashioned Hosiery Mill. Felix Scheller, formerly general superintendent of Massachusetts Knitting Mills, Boston, is in charge.

Lord Jeff Knitting Co., Inc., New York, N. Y., has leased two-story and basement building at 7 West 31st St., and will occupy for plant. Additional facilities will be provided for increased capacity.

Monroe (N. C.) Full-Fashioned Hosiery Co. has had Smith Medlin of Marshville appointed temporary receiver.

Oscar Nebel Hosiery Corp., Verona, Va.. with maximum capital of $400,000, has been chartered in Virginia to manufacture and deal in hosiery and knit goods. Harry E. Schoenut, of Jenkinton, Pa., is president.

Parker Hosiery Mill, Hickory, N. C., has recently been organized by R. S. Parker, Jr., formerly manager of Cherokee Finishing Plant. It operates 30 machines.

William B. Peasley, Fultonville, N. Y., has purchased the silk knitting plant operated originally by the late John H. Rathman and lately as a branch of Fulton County Silk Mills.

Penderlea (N. C.) Homesteads Hosiery Mill, now operating on silk hosiery, plans early installation of additional equipment, including about 130 new Wildman single-head, full-fashioned machines and accessory apparatus. This will make a total of 402 such machines at the mill.

Piqua (Ohio) Hosiery Co. has been purchased by Consolidated Sewing Machine & Supply Co., New York, and is being liquidated.

Pohatcong Hosiery Mills, Inc., Washington, N. J., have been acquired by Vesta Underwear Co., Providence, R. I., which will continue operations at same location.

Superior Knitting Mills, Philadelphia, Pa., have leased space, about 10,000 sq. ft., in Fretz Building, Tenth and Diamond Sts., and will occupy for expansion.

Surry Hosiery Mills, Mount Airy, N. C., newly organized, will take over the plant formerly occupied by Argonne Mills. R. B. Davis is president and treasurer. About 25 machines will be operated on woolen half hose.

Van Raalte Co., North Tonawanda, N. Y., plans addition to knitting department of its local plant.

Vertex Hosiery Mill, Weissport, Pa., is being negotiated for by a group of cooperatives who seek to acquire and operate the mill.

Virginia Maid Hosiery Mills, Pulaski, Va., are installing 30-section, 51 gauge full-fashioned machines to run on Nylon. The firm has taken over its own selling, the previous selling agency, Lichten Bros., having liquidated.

Processing Plant News

Algonquin Printing Co., Fall River, Mass., has shut down; company is planning to liquidate.

Catawba Valley Finishing Co., Newton, N. C., recently organized, has taken over building formerly occupied by Young Cotton Mill Co., and begun operation on hosiery converting and finishing. V. W. Jenkins, manager of local Whenball Hosiery Mills, heads the company.

Holyoke Printing & Finishing Co., Boston, Mass., recently organized with capital of $20,000, plans operation of textile printing and finishing mill. Charles W. MacDonough is president.

Marshall Field & Co. will construct a new dye plant at their Draper, N. C., textile manufacturing unit,

Normandy Print Works, New Bedford, Mass., has leased 100,000 sq. ft. of space in the former Booth Mill, and expects to move into the new quarters June 1. The Normandy company does screen-printing of silk and rayon cloth and expects to employ 250. Officers are Sol Baron, president, and George Jablon, treasurer, who will have charge of the plant.

Proximity Mills Co., Greensboro, N. C., is building a seven-story addition to be used as warehouse at Proximity Print Works.

Ramapo Finishing & Dye Works, Sloatsburg, N. Y., has been acquired by Crescent Corp. Machinery will be sold in lots to suit purchasers and buildings may be sold or leased.